

Hills Rural Study 2014



**shire of
kalamunda**

Prepared by Shire of Kalamunda

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List of key abbreviations

DAFWA	Department of Agriculture and Food Western Australia
DC 3.4	Development Control Policy 3.4 – Subdivision of Rural Land
DEC	Department of Environment and Conservation
DoP	Department of Planning
DoW	Department of Water
DPAW	Department of Parks and Wildlife
Draft Guidelines	Draft Planning for Bushfire Risk Management Guidelines
Draft SPP 3.7	Draft State Planning Policy 3.7 – Planning For Bushfire Risk Management
EDDP	Economic Development Discussion Paper
FESA	Fire and Emergency Services Authority of Western Australia
LPS	Local Planning Strategy
MHCA Strategy	Middle Helena Catchment Area Land Use and Water Management Strategy
MRS	Metropolitan Region Scheme
P1	Priority 1 drinking water source area
P2	Priority 2 drinking water source area
P3	Priority 3 drinking water source area
SCA	Special Control Area
SPP 2	State Planning Policy 2 – Environment and Natural Resources Policy
SPP 2.4	State Planning Policy 2.4 – Basic Raw Materials
SPP 2.5	State Planning Policy 2.5 – Land Use Planning in Rural Areas
SPP 6.1	State Planning Policy 6.1 - Leeuwin-Naturaliste Ridge Statement of Planning Policy
SPP 2.7	State Planning Policy 2.7 – Public Drinking Water Source Policy
WAPC	Western Australian Planning Commission
WQPN 25	Water Quality Protection Note 25 – Land Use Compatibility in Public Drinking Water Source Areas

Executive Summary

Introduction

This Study was initiated in order to examine a number of complex issues and often competing interests facing the Kalamunda Hills Rural area (the Study area).

In recent years, many landowners who want to subdivide their properties in the Study area have approached the Shire. These landowners primarily wish to subdivide because they are second or third generation members of orchard families who earn their living in other industries, and no longer have time to manage orchards on a full time basis. Furthermore, it is apparent that the profitability of agricultural/horticultural production in the Study area has declined, making it difficult for land owners to maintain agriculture/horticulture as a sole means of income. Land owners in the area, however, have a strong identity with their locality and do not want to live elsewhere.

The Study area is heavily constrained by planning and environmental regulations. Further development of the area is currently not possible due to the positions of the Western Australian Planning Commission (WAPC), the Department of Agriculture and Food WA (DAFWA) and the Department of Water (DoW) regarding protection of the State's priority agricultural land and drinking water resources. Notwithstanding this position, the Shire's Local Planning Strategy which was adopted in 2010 by the WAPC, identified the need for a new Study to be undertaken to reassess potential future planning options for the Study area.

The purpose of this study is, therefore, to understand land use, agricultural, environmental, economic and social trends relative to the Hills Rural area so that opportunities can be identified and informed decisions can be made regarding future land use planning.

Details of the Study

During the course of preparing the draft Study between 2011 and 2013, a significant amount of background research and investigation was undertaken. This included on-site meetings and workshops between the community, Councillors and Shire staff. Other background research included a resident's survey, a review of legislation, policy and photographs, and the identification of trends in the area through environmental, demographic, land uses and infrastructure assessments.

The primary issues facing growers in the area were identified as follows:

- The availability of water has steadily reduced and it is likely that this trend will continue;
- The loss of markets - most growers are not of a large enough scale to cater to the large food

providers, and local markets are too small to accommodate all the growers. The international market has become too competitive because of the inclusion of countries with cheaper labour costs;

- Younger generations have increasingly chosen to work in other industries, resulting in an increasing number of ageing landowners who are struggling to cope with the demands of 'growing' work on their own;
- The inability to subdivide large rural landholdings results in the fragmentation of the traditional horticultural family units as young people are forced to move out of the area in order to be able to purchase their own property; and
- Some pest controlling chemicals are being banned from use, making pest control management considerably harder and less cost effective.

The Draft Study

A draft Hills Rural Study was presented to Council in November of 2013 which incorporated all of the abovementioned background research, along with a discussion of opportunities and constraints relative to the Study area. The perceived opportunities and constraints for the area informed the three recommendations of the draft Study. These recommendations (as below) were advertised for public comment following Council's November 2013 decision to adopt the draft Study for the purpose of advertising.

Draft recommendation 1 – This recommendation related to supporting local growers to implement the economic development measures identified in the Economic Development Discussion Paper which was included as an attachment to the draft Study.

Draft recommendation 2 – This recommendation would see a review of Local Planning Scheme 3 (the Scheme) to identify where zone rationalisation or changes to land use permissibility could occur. In particular, the review would explore land uses which may facilitate new revenue opportunities and the diversification of the horticultural/agricultural industry in the Study area.

Draft recommendation 3 – This recommendation presented seven different options relating to subdivision of the Study area in the future as follows:

1. No change to the current subdivision potential of the land;
2. Reduction of the minimum lot size of zones in the Study area;
3. Introduction of an 2 hectare 'agricultural ancillary' lot for lots under production which are currently in excess of 6 hectares;
4. Excision of a 2 hectare lot from all lots in excess of 6 hectares regardless of whether they are under production;
5. Rural cluster subdivision of a lot into a number of small strata lots, and a separate agricultural lot under production.

6. Transferrable development rights which allow those with lots under production and the potential to subdivide their land the opportunity to sell their development rights in order to protect the agricultural land.
7. A full reclassification of the area from a priority agricultural area to a rural settlement designation which would allow subdivision of lots down to 2 hectares.

The draft Study was advertised to the public for 80 days ceasing on 14 February 2014. A large number of the public submissions received (231 of the 318) were an identical submission which was signed by different members of the public, this submission is referred to in this document as the 'group' submission. This submission supported Recommendation 7 of the Study to reclassify the Study area from Priority Agriculture to Rural Settlement and allow subdivision of the area to occur. The balance of the submissions were received from other members of the public, each with differing views on the future of the Study area.

Government Agencies were largely opposed to further subdivision due to the likelihood that further land fragmentation would be inconsistent with State Planning Policies relating to protection of agricultural land and drinking water resources. The Department of Planning (DoP), DAFWA and DoW have each expressed varied levels of support for Recommendations 1 and 2 of the draft Study being implemented.

The Final Study

The present, final version of the Hills Rural Study makes the following recommendations in light of the findings of the background research in addition to an analysis of the submissions received:

Final Recommendation 1

Commit to supporting landowners in the Kalamunda Hills Rural area with developing and implementing economic development initiatives aimed at diversifying and improving the viability of agriculture/horticulture activities. This support may occur by way of Councillor and staff involvement, liaising with State Government Departments, obtaining grants and research assistance, or other means of support deemed appropriate.

Final Recommendation 2

Commence a Local Planning Scheme 3 Amendment for the purpose of:

- a) Rationalising rural zones in the Study area;
- b) Introducing new permissible land uses to rural zones in the Study area which may increase land use flexibility for land owners; and
- c) Introducing a new 'Priority Agriculture' zone over land which is deemed to be of State, regional or local significance for food production purposes, due to its collaborative advantage in terms of soils, climate, water (rain or irrigation) and access to services, in accordance with *Planning*

Policy 2.5 – Land Use Planning in Rural Areas, and the WAPC's Rural Planning Guidelines 2014.

Final Recommendation 3

Write to the WAPC and the DAFWA to:

- a) Advise that the Shire acknowledges their positions regarding further subdivision of the Kalamunda Hills Rural area, and furthermore, that the Shire will not be progressing any planning in this regard following the conclusion of the Hills Rural Study 2014; and
- b) Request that the DAFWA initiate a study into the agricultural productivity of the area for the purpose of assisting the Shire to delineate the boundaries of a new 'Priority Agriculture' zone in accordance with the WAPC's *Rural Planning Guidelines 2014*.

1. INTRODUCTION

Purpose of the Hills Rural Study (2014)

Land owners in the Study area have historically been producers of vegetables, citrus fruit, and more recently stone and pome fruit. In the past few decades the region has experienced a decline in productivity based on changes in climate, economic factors and changes in family structures. Land owners in the area, however, have a strong identity with their locality and do not want to live elsewhere.

The costs of production, including start-up costs, labour, machinery, petrol, electricity, and other inputs into the growing industry continue to rise. Availability of water has been reduced and chemicals to alleviate risk to crops, such as pests and root-rot, are becoming unavailable to the horticulturalists. The market prices for stone fruit, apples, pears, and other produce have decreased and tend to be very sensitive to fluctuations of the market. For a number of years, there has been a steady flow of requests for land use planning changes from the landowners. Horticulturalists and other landowners have been voicing their distress over the perceived inflexibility of land use in the Study area.

The Shire has prepared the current Hills Rural Study for the purpose of addressing these requests by thoroughly understanding and documenting land use, horticultural/agricultural, environmental, economic and social trends relating to the Study area, so that opportunities for future land use planning can be identified in the context of the current regulatory planning framework.

The recommendations of the Study will represent implementable actions aimed at facilitating a better balance between the conflicting priorities in the area such as protecting agricultural land from further fragmentation and the quality of drinking water resources, increasing the flexibility of land uses and development for landowners, and protecting of the rural amenity of the area.

Objectives of the Hills Rural Study (2014)

- To allow landowners more flexibility in potential land uses;
- To encourage additional land uses ancillary to the primary horticultural/agricultural production;
- To consider the potential for future subdivision in the area;
- To review the current zoning in the area;
- To create incentives and support horticultural/agricultural production in the area;
- To protect the rural character of the area through landscape protection; and

- To protect the quality of water.

The Hills Orchard Study (1988)

The current Study follows on from the Hills Orchard Study which was prepared by the Shire during the 1980s for the purpose of developing a consistent long term approach to the ongoing planning of activities in the traditional orcharding areas of the Shire.

The 1988 Study evaluated the physical, social and economic factors affecting land contained within rural areas of the Shire. An important element of the Study was assessing of the capability of the area to support further development and subdivision, and new land use classifications. The following were recommendations made under the 1988 Study:

- The introduction of new rural Scheme zonings ('Rural Agriculture', 'Rural Conservation', 'Rural Landscape Interest', 'Rural Living' and 'Residential Bushland'). The requirements for these new zones were to take into consideration the capability and suitability of the land to sustain the proposed development.
- The introduction of subdivision policies to guide future subdivision in the rural areas, based on the capability of the land to support increased development, having regard to the availability of services amongst other matters.
- The introduction of development control policies designed to preserve the amenity of rural areas.
- The establishment of a promotional programme for the rural areas, based on the concept of maintaining valuable fruit producing areas as a viable economic resource.

The final Study was compiled and its recommendations were implemented through their incorporation into District Planning Scheme No. 2, and subsequently the Scheme, which stipulates the minimum lot sizes for subdivision in the rural zones.

Hills Rural Study Area

The Location of the Area

The Study area is situated approximately 32 kilometres east of the Perth CBD and covers an area of approximately 2,326 hectares. Contained within the Perth Metropolitan Region, it is centrally located within the Shire's boundaries, but lies southeast of the urban areas of the Shire.

The Area encompasses the localities of Bickley, Canning Mills, Carmel, Hacketts Gully, Paulls Valley, Pickering Brook, Piesse Brook, and parts of Kalamunda, Lesmurdie, and Walliston as depicted in

Topographical Position

The Study area is situated on the western edge of the Darling Plateau, directly east of the Darling Scarp. The Darling Scarp rises to a height of approximately 300 metres above sea level over the coastal plain and runs in a north-south direction parallel to the coast.

The lateritic upland plateau surface of the Study area is dissected by three major valley systems:

- Helena River, which lies parallel to the northern boundary of the Study area.
- Piesse Brook, which runs through the centre of the Study area in a southeast to northwest direction.
- Bickley Brook, which lies parallel to the southwest boundary of the Study area.

Structure of this Study Document

This document contains the following key sections:

1. Introduction – Present Chapter.
2. Methodology and research process – This Chapter provides overview of the techniques used to gather information regarding the Hills Rural area. Furthermore, this section describes how the research process unfolded prior to compiling the current final version of the Study.
3. State Planning Context – This Chapter contains a summary of the State Planning documents which relate to the Study area, and identifies any important implications which these documents have for land use and development within the Study area.
4. Local Planning Context – This Chapter contains information on local level planning documents which relate to the Study area.
5. Site Context – This Chapter is a collation of information regarding the demographic, land use, environmental and infrastructural character of the Study area. The information contained in this Chapter has been sourced from census data, a survey of residents in the area, technical environmental investigations, and through observation.
6. Case Studies and Literature Review – This Chapter contains several case studies from areas within, and outside of Western Australia. The areas chosen for case studies are rural areas that have faced comparable issues to the Hills Rural area. Furthermore, this Chapter contains an analysis of 'agri-tourism' literature given that this has been identified as an important concept to explore by the Hills Rural community.
7. The draft Hills Rural Study – This Chapter contains an overview of the draft Hills Rural Study

which was considered by Council in November of 2013 before being advertised for public comment. The draft Study, and the submissions received during the advertising of this Study have formed the basis for the current, final version of the Study.

8. Public Consultation – This Chapter includes the details of the public advertising period of the draft Hills Rural Study. It also contains a summary and statistical analysis of the submissions received.
9. Discussion – This Chapter contains a discussion of the opportunities and constraints relating to the Hills Rural area in light of regulatory constraints and the comments of public and Government agencies regarding the further development of the Study area.
10. Conclusion and Recommendations – This Chapter concludes the Hills Rural Study, and recommends measures to be taken in response to the issues facing the Study area.

2. METHODOLOGY AND RESEARCH PROCESS

Work commenced on the Hills Rural Study in 2012 in response to a number of requests for land use and planning changes from residents of the Hills Rural Community. Since this time, a number of methods have been used to gather, collate and analyse information. The following is an overview of the research process and methodology.

Background Research

Preliminary Community Engagement

During the course of preparing the draft Study between 2012 and 2013, a working group was formed, consisting of the growers and community members, Councillors and staff. A number of meetings and onsite visits were held to provide Shire staff with an idea of the issues facing local growers. In addition, a questionnaire was prepared and sent to all landowners within the Study area for the purpose of gaining up-to-date information from the community itself on the land uses, demographics, community preferences, opportunities and constraints within the Study area.

The questionnaire was sent to 735 residents on the 24th April 2012. A total of 273 responses were received, with 271 included in this analysis. The response rate was 37% of all those contacted. The results of the questionnaire showed the range of opinions and preferences among residents of the Study area. It was apparent that there is generally support for change in the area both in terms of subdivision, as well as an increase in tourism ventures. 62% of the respondents that made comments about the future potential subdivision expressed their support for it. When the results were broken down further, they showed that only the respondents who already have properties less or equal to 2 ha, were not in favour of any future subdivision. In turn, 73% of the respondents with the properties larger than 2 ha were in favour of future subdivision.

The results of the questionnaire informed the context chapters of the Hills Rural Study, in addition to the three recommendations of draft study which were advertised. Further details of the questionnaire are available in Appendix 1.

Review of Planning Documents

In order to understand the planning constraints relating to the Study area, a full analysis of the following planning documents was undertaken:

- State-wide planning strategies;
- State Planning Policies;

- Metropolitan area planning strategies;
- The Metropolitan Region Scheme;
- Department of Water Policies;
- The local Planning Scheme; and
- Local Planning Policies.

Investigate Site Context

To achieve a comprehensive 'snapshot' of the Study area, the following assessments were undertaken:

- A comparison between 1986 and 2011 Australian census statistics, and an appraisal of the demographic and socio-economic profile of the Study area in order to determine areas of growth and decline within the population;
- An evaluation of the history, control, and pattern of land use within the Study area including a comparison of the amount of land under production between 1985 and 2012;
- An analysis of the horticulture/agriculture production trends on properties;
- An assessment of the natural environment and its ability to support horticulture and other land uses. This included an assessment of production, soil types, and water availability within the Study area which was undertaken by a land capability consultant; and
- A review of existing infrastructure, roads, and public utilities within the Study area.

Case Studies and Literature Review

In response to popular opinion that the Study area should be promoted as a tourism area similar to the Swan Valley, case study investigations and a review of 'agri-tourism' literature was undertaken. The case studies focussed on rural areas which have faced similar issues to those of the Study area.

Economic Development Discussion Paper (EDDP)

In June 2013, Council decided to broaden the scope of the Hills Rural Study by engaging an independent economic development consultant to add a broader economic context to the Study. The resulting EDDP had significant implications on the recommendations of the draft Study. The EDDP presents the findings of an economic evaluation of the area, and recommends different initiatives which could improve the economic situation for producers in the Study area. A copy of the EDDP is included as Appendix 2 to this Study.

The draft Study

The draft Study incorporated all of the abovementioned background research, which informed the Study's discussion of opportunities and constraints for the Study area. The perceived opportunities and constraints informed the three recommendations of the draft Study which were advertised for public comment. Further details of the draft Study are provided in Chapter 7 of this document. Council adopted the draft Hills Rural Study, the EDDP and the appendices of the draft Study for the purpose of advertising in November 2013. Council's resolution required all components of the Study to be publically advertised for a period of 80 days to allow the opportunity for public submissions on the Study.

Public Consultation

In accordance with Council's resolution, Shire staff advertised the draft Study for an 80 day period which finished on 14 February 2014. The draft Study was advertised by way of letters to all owners of land within the Study area, notice on the Shire's website and in the local newspapers. An open forum was held for interested land owners, providing an opportunity to ask questions and seek further clarification on the issues raised in the Study. A submission template was provided for public use which encouraged submitters to comment on each recommendation of the Study. The advertising process is revisited in Chapter 8 of this document.

Analysis of Submissions

A total of 318 public submissions were received on the draft Study, in addition to a further six submissions from Government Agencies and Town Planning Consultants. A quantitative analysis of the submissions was undertaken by tallying the number of submitters for or against particular aspects of the Study. These statistics are presented graphically in Chapter 7 of this document. A qualitative review of the submissions was undertaken by identifying the most common themes from the submissions, and using these to provide some context as to the viewpoint of submitters.

Collating the Final Hills Rural Study

The present document is the final Hills Rural Study. This Study incorporates the background research undertaken, in addition to new Chapters which have been inserted following an analysis of submissions received on the draft Study. This final Study includes revised recommendations and concludes the Shire's review of planning for the Hills Rural area for the time being.

3. STATE PLANNING CONTEXT

State-Wide Strategies

State Planning Strategy (1997)

A function of the WAPC is to prepare and keep under review a planning strategy for the State as a basis for coordinating and promoting land use planning, transport planning, development of land in a sustainable manner and for the guidance of the public authorities and local governments on those matters. The WAPC published the State Planning Strategy in 1997, this was first State-wide plan to consider how and where the State would develop in the long term. The State Planning Strategy divides the State into several regions and stipulates Visions, Regional Strategies and Regional Actions that need to be undertaken in the future.

The Shire is part of the Perth Metropolitan Region and shares common Visions, Strategies and Actions with the other Local Governments in Perth. The Vision for Perth is to develop as, *"one of the cleanest, most productive and liveable cities in the world"*.

The following are the main Regional Strategies:

- Promote Perth as an international city;
- Provide for future economic development;
- Plan for population growth;
- Limit travel demand in urban areas;
- Promote a strategic transport network;
- Protect key environmental resource areas and cultural heritage;
- Protect water resources;
- Protect prime agricultural land and intensive agriculture infrastructure from incompatible development; and
- Protect quality of air and water systems.

State Planning Strategy 2050

State Planning Strategy 2050 was launched by the Minister for Planning in June 2014. The following two objectives of the Strategy are relevant to the Hills Rural Study:

Environment

The objective is to conserve biodiversity, achieve resilient ecosystems, protect significant landscapes

and manages the State's natural resources in a sustainable manner.

The strategic direction for the environment involves enhancing conservation of the State's natural and biological resources and the creation of ecological linkages to protect the landscape. Aspirations for 2050 include:

- Natural resources such as water, agricultural land, energy and mineral resources and basic raw material deposits are conserved for best future use and development; and
- Programs continue to be implemented to meet State and national water quality standards.

Agriculture and Food

The objective is to enable the State's food supply chains to meet the projected demands of its domestic and global food and fisheries market.

State Planning Strategy 2050 identified that there is need to remain globally competitive when it comes to food production. With this in mind, agricultural production systems need to diversify and become more sustainable. Western Australia needs to adopt the best agricultural practices and supply chain efficiencies supported by effective infrastructure. Aspirations for the year 2050 include:

- Increase export and inward investment in the agrifood sector;
- Produce commercial agrifood on peri-urban land and near metropolitan areas;
- Plan emergency responses to any disruption of the food supply chain;
- Ensure strategic food production areas are well serviced by key infrastructure to enable their sustained activity;
- Limit fragmentation of agricultural land and encourage consolidation; and
- Add value and improvements to food production and processing throughout the State.

Of particular relevance to this Study, State Planning Strategy 2050 outlines that:

"Prime agricultural land as well as the land required for intensive agriculture, food processing and manufacturing, infrastructure corridors (rail, road and related services) and food distribution facilities are under constant threat from urban expansion and the fragmentation of rural land into smaller lifestyle holdings. The continued loss of agricultural land close to cities requires that measures are put in place to secure land for future agricultural and food industry production. This includes the need for the strategic identification of future land and precincts, the definition of buffers, the provision of land for infrastructure corridors and innovation to improve the general status of food security."

State Planning Policies

State Planning Policy 2 – Environment and Natural Resources Policy

The objectives of State Planning Policy 2 (SPP 2) are:

- To integrate environment and natural resource management with broader land use planning and decision-making;
- To protect, conserve, and enhance the natural environment; and
- To promote and assist in the wise and sustainable management of natural resources.

SPP 2 provides statutory provisions for the sustainable management of:

- Water resources;
- Air quality;
- Soil and land quality;
- Biodiversity;
- Agricultural land and rangelands;
- Minerals;
- Petroleum and basic raw materials;
- Marine resources and aquaculture; and
- Landscapes and greenhouse gas emissions and energy efficiency.

The matters covered by SPP 2 have recently been addressed in the preparation of the Shire's Local Biodiversity Strategy and are dealt with on a day to day basis by Shire environmental staff.

State Planning Policy 2.4 – Basic Raw Materials

State Planning Policy 2.4 (SPP 2.4) is intended to act as a framework for identifying and protecting resources in order to ensure that the building and development needs for basic raw materials will continue to be met. SPP 2.4 outlines key resource and extraction areas within the metropolitan region. A portion of a rock resource area is located within Pickering Brook. The key principles of SPP 2.4 are to ensure the protection of resource areas and extractive operations from the encroachment of incompatible land uses; ensure the extraction of such materials complies with acceptable environmental and amenity standards; and provide a consistent planning approval process for extractive industry proposals.

State Planning Policy 2.5 – Agricultural and Rural Land Use Planning

State Planning Policy 2.5 (SPP 2.5) was gazetted in November 2013 and replaced the previous State Planning Policy 11 – Agricultural and Rural Land Use Planning. SPP 2.5 applies to all the land zoned 'Rural' under the Metropolitan Region Scheme (MRS) and contains the following objectives:

- To protect rural land from incompatible uses;
- To promote regional development through the provision on ongoing economic opportunities on rural land;
- To promote sustainable settlement in, and adjacent to, existing urban areas;
- To protect and improve environmental and landscape assets; and
- To minimise land use conflicts.

SPP 2.5 is intended to be used in conjunction with *Development Control Policy 3.4 - Subdivision of Rural Land* (DC 3.4), and is supported by the *Rural Planning Guidelines 2014*. As SPP 2.5 is a statutory document, it must be given due regard during the assessment and determination of development proposals such as structure plans, subdivisions and developments.

Priority Agriculture

The largest implication of SPP 2.5 on the Study area is the emphasis that it places on protecting areas of priority agriculture land from further fragmentation and from incompatible land uses. The term 'priority agriculture' is defined as follows:

"Land considered to be of State, regional or local significance for food production due to its collaborative advantage in terms of soils, climate, water (rain or irrigation) and access to services. Priority agricultural land is derived from High Quality Agricultural Land data that has been subject to consultation and refinement, and has removed land required for existing and future urban/development areas, public use areas and land required for environmental purposes."

Under the previous State Planning Policy 11 these priority agricultural areas were delineated on plans such as Figure 3 which applied to the Study area when this policy was operational. In contrast, SPP 2.5 does not specifically designate any areas of priority agricultural land. Rather, SPP 2.5 places the responsibility of determining priority agricultural areas on the local government, identifying that these areas should be identified through local planning strategies and schemes.

Local governments are referred to the *Rural Planning Guidelines 2014* which outlines the process for identifying priority agricultural land and incorporating it in local planning strategies and schemes. This process first involves gaining high quality agricultural land mapping from the DAFWA, and then refining the mapped land areas to exclude existing or future urban areas, and land for public, environmental or infrastructure uses. Following a public consultation period, these areas should be refined again, and then incorporated into the local planning strategy or scheme.

It is noted that the Shire has not yet been through the process of incorporating priority agricultural

land areas into the Local Planning Strategy or the Scheme. Notwithstanding this, it is considered that SPP 2.5 still affords the Study area a significant level of protection from subdivision and incompatible land uses. SPP 2.5 still applies to all land rural zoned land in the State, and it contains several other policy measures to ensure that rural/agricultural land is retained as follows:

- Clause 5.1 – Protection of rural land. Key points include:
 - Rural uses are generally considered to be the best use of land zoned for rural purposes. There may also be a subset of rural land that is most productive for agriculture due to it having the most suitable soils and climate;
 - Land identified as being priority agricultural land is to be retained for this purpose; and
 - Creation of new rural lots through ad-hoc, unplanned subdivision is considered to be contrary to the objectives of the policy and new lots will be considered by exception in accordance with DC 3.4.

- Clause 5.2 – Rural land in the Perth metropolitan and Peel regions. Key points include:
 - Rural living proposals will be considered by exception in planning strategies and schemes; and
 - Priority agricultural land is to be preserved for that purpose due to its proximity to major population centres.

- Clause 5.6 – Rural living precincts – Key points include:
 - Will be considered where areas of priority agricultural land area avoided;
 - A rural living precinct must not conflict with rural land use activity or reduce the primary production potential of nearby land; and
 - The precinct must have access to services, facilities and amenities.

- Clause 5.8 – Avoiding land use conflicts – key points include:
 - The introduction of land uses in rural areas that may constrain existing or potential rural land uses will generally not be supported.

It is also noted that DAFWA consider the Study area to be a Class 1 and 2 land capability area for agricultural and horticultural production. Based on this, it is likely that if the Shire go the path of implementing SPP 2.5 with respect to incorporating priority agricultural areas into the Scheme, much of the Study area will be affected.

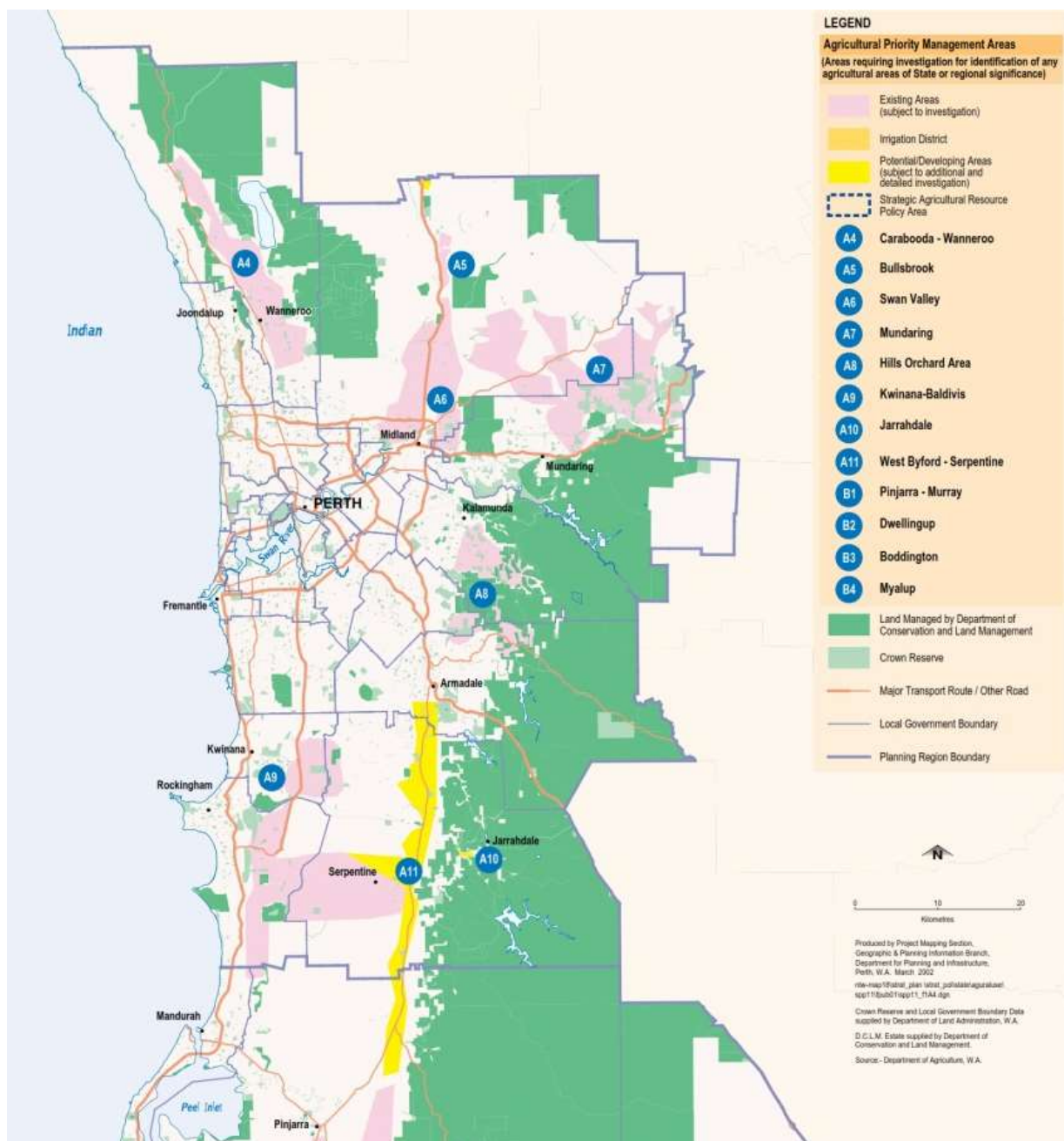


Figure 3: Agricultural Priority Management Areas for the Perth and Peel Regions as per previous State Planning Policy No. 11.

State Planning Policy 2.7 – Public Drinking Water Source Policy

The objective of State Planning Policy 2.7 (SPP 2.7) is to ensure that land use and development within public drinking water source areas is compatible with the long-term management of water resources for public water supply. The DoW is responsible for managing and protecting water resources. The WAPC classifies drinking water resource areas as follows:

- Priority 1 (P1) areas should be managed to ensure there is no degradation of the water resource in these areas. This is the highest level of protection for the water source and will normally apply to land owned by the state, and is characterized by low-intensity and low-risk land use, such as forestry. Protection of the public water supply outweighs virtually all other considerations in the respect to the use of this land. P1 areas are managed in accordance with the principle of risk avoidance.
- Priority 2 (P2) areas should be managed to ensure that there is no increased risk of pollution to the water source. P2 areas are declared over land where low-risk development already exists on land which may be privately owned. P2 areas are managed in accordance with the principle of risk minimization and therefore conditional development is allowed.
- Priority 3 (P3) areas should be managed to reduce the risk of polluting the water source. P3 areas are declared over land where water supply sources need to co-exist with other land uses such as residential, commercial, and light industrial developments, although there is some restriction on potentially highly polluting land uses. Protection of P3 areas is otherwise achieved through management guidelines for land use activities. If the water source does become contaminated then water may need to be treated or an alternative water source found.

Development Control Policy 3.4 – Subdivision of Rural Land

DC 3.4 guides the subdivision of rural land to achieve the four key objectives of SPP 2.5 to protect agricultural land, plan for rural settlement, minimise land use conflict and manage natural resources.

When approving lots for rural-residential development (1-4 ha) the WAPC will generally require connection to a reticulated water supply where it is practical and reasonable to do so. Where it is not practical or reasonable for lots to connect to a reticulated water supply, the WAPC may consider an alternative water supply. In determining whether provision of a reticulated water supply is reasonable, the WAPC may consider the cost differential between reticulated and alternative water supply, and the reliability of an alternative water supply.

It is the WAPC's policy that existing large rural lots should be retained for traditional forms of farming and that the fragmentation of rural land and loss of rural character through ad-hoc, unplanned subdivision should not be permitted. New lots for existing or proposed specific non-rural land uses such as recreation facilities, public utilities, and quarries, or ancillary uses to a rural use such as abattoirs may be created through subdivision.

Draft State Planning Policy 3.7 Planning for Bushfire Risk Management and Planning for Bushfire Protection Guidelines

The WAPC has been concerned about planning in bushfire hazard areas for many years, however, until May 2014, bushfire was primarily considered in the planning process through the application of the Planning for Bushfire Guidelines (The Guidelines) published in 2010.

The primary focus of the Guidelines is bush fire protection for new subdivisions and related development in rural residential areas. The Guidelines establish a set of performance criteria that are required to be met by new subdivisions and related development within bushfire prone areas. Local governments are encouraged to adopt the performance criteria within the Guidelines when assessing structure plans, subdivisions and development applications.

In May 2014, the WAPC released the draft State Planning Policy 3.7 – Planning for Bushfire Risk Management (draft SPP 3.7) along with a revised edition of the Planning for Bushfire Guidelines (the draft Guidelines). These documents were prepared following the release of the Keelty Report which identified that a more integrated planning approach needed to be taken to bushfire risk management following several devastating bushfires throughout Australia in recent years. It was acknowledged that although the current Guidelines contain appropriate bushfire mitigation measures, a lack of any statutory 'head of power' is preventing the consistent implementation of the Guidelines.

Consistent with the approach recommended in the draft SPP 3.7, the Shire has now adopted a Scheme amendment to introduce a Special Control Area 'Bushfire Prone Area' into the Scheme. The bushfire mapping was prepared in conjunction with Fire and Emergency Services Authority (FESA) and the DoP. The vast majority of the Study area is designated as bushfire prone in accordance with this bushfire mapping, and therefore, any application for subdivision or development will be subject to SPP 3.7 and the Guidelines which provide guidance for the assessment of such applications.

It is noted that the draft SPP 3.7 and draft Guidelines require an additional level of assessment to be undertaken prior to the approval of any subdivision or development within the designated bushfire prone special control area. This assessment is a Bushfire Hazard Assessment as a minimum, the outcome of which will determine whether further bushfire management plans are necessary. Where appropriate, planning approval may be granted subject to the proposal meeting certain criteria relating to bushfire risk management, however, in certain cases a proposal may be refused.

The draft Guidelines acknowledge the need to achieve a sensible balance between protecting homes and residents, and maintaining native vegetated areas, especially those conservation areas of importance to the community. In this regard, the draft Guidelines include the following bushfire protection measures:

- Reduction of hazard levels in extreme fire hazard areas to moderate or low by selective clearing of vegetation such as firebreaks on adjacent reserves;
- Creating a Building Protection Zone of 20 metres around buildings. In this zone fuel loads are to be reduced and maintained at 2 tonnes per hectare. Trees with crowns are to be a minimum of 10 metres apart and must be pruned to a height of no more than 2 metres and must not be located within 2 metres of a building; and
- An 80 metre hazard separation zone should be maintained on the edge of forests, woodlands, closed shrub, open shrub, mallee/mulga and rainforest.

There are many existing areas in the Shire that have an extreme fire risk rating and do not meet the criteria of the draft Guidelines. As it is extremely difficult to retrofit these areas to be more bushfire safe, the Shire has prepared a detailed 'Local Emergency Management Arrangements' that are intended for a broad range of emergency situations including bushfires. The document sets out emergency procedures to coordinate a broad range of State and local government staff who are trained to manage emergency situations, including bushfires. The Shire, together with FESA, has also prepared an 'Emergency Manual' that includes procedures for fire emergencies.

Metropolitan Area Planning

Metropolitan Region Scheme

The regional planning Scheme applicable to the Study area is the MRS, which is administered by the WAPC. The MRS allocates high level zones or reserves, and corresponding statutory provisions to all land within the Perth metropolitan area. The zoning and use of land as outlined in a local planning scheme must be consistent with the MRS.

The Study area is mostly zoned 'Rural' under the MRS, except for the townsites of Bickley, Carmel, and Pickering Brook, which are zoned 'Urban'. A large proportion of the Study area is also contained within the MRS 'Water Catchment' reserve which forms part of the Upper and Lower Bickley Catchments. The Shire does not have delegation to determine development applications with respect to land contained in this MRS reserve. Therefore, all applications for this area must be determined by the WAPC.

Middle Helena Catchment Area Land Use and Water Management Strategy

The Middle Helena Catchment Area Land Use and Water Management Strategy (MHCA Strategy) covers the Piesse Brook Water Catchment Area to the east of the Shire. The aim of the MHCA Strategy is to provide a framework for land use planning and water management within the catchment area. This is achieved by integrating land use planning with the public drinking water source protection area.

The MHCA Strategy area faces pressures from development for housing, reduction of agricultural production and an increasing need for tourism opportunities. The MHCA Strategy also identifies that revenue from orcharding production has declined in recent years. As such, it is expected that a growth in viticulture and the growth of secondary industries such as wineries, cellar door sales, wine tasting, cafés, tea rooms, restaurants and art galleries will come about.

Based on the three classifications of drinking water resource, the MHCA Strategy recommends that two amendments be made to the MRS. The first is that the 'Water Catchment' reservation be placed over all P1 areas within the Strategy Area. This will require all applications for development on land within the P1 area to be referred to the WAPC for determination, rather than being determined by the Local Government. The latter recommendation is that a 'Rural - Water Protection' zone be placed over areas identified as P2 areas within the Strategy. This would then require all land uses within a P2 area as listed as conditional or incompatible in accordance with the DoW's *Water Quality Protection Note 25: Land Use Compatibility in Public Drinking Water Source Areas* (WQPN 25) to be referred to the DoW for comment. As these amendments have not been undertaken by the WAPC, there is currently no set referral process for applications relating to P1 and P2 areas.

Within WQPN 25, the DoW has categorised different land uses as either 'incompatible', 'compatible with conditions' or 'acceptable' in P1, P2 and P3 areas depending on the level of risk of the particular land use degrading the drinking water resource. 'Compatible with conditions' is used when a use can be compatible subject to certain conditions are placed on the approval of the use. This may include site management practices and can cover issues such as the storage of chemicals, fuels, disposal of waste and application of nutrients. However, this list is not exhaustive and can be updated as needed. This list may also be updated as industry standards change and when clarification on a particular use is requested.

In variation to the DoW's Land Use Compatibility in WQPN 25, the MHCA Strategy lists a number of uses that can be considered within P2 areas (see Table 2). This is in response to landowners promoting the establishment of recreational and tourism uses the Study area. There are a number of wineries and a cider house offering cellar door sales of their products within the catchment currently.

There is a push from these venues to expand these uses to offer food, in addition to the tastings and sales currently offered. This variation to WQPN 25 would allow such uses as cafés, restaurants, tea rooms, art galleries, and museums to be established in the area which are currently deemed to be incompatible in P2 zones. These uses, however, will only be considered in P2 areas subject to limitations on the size and scale of the development and strict 'best practice' management of issues such as stormwater management and grease traps.

Reviewing the WQPN 25 Land Use Compatibility Table, there are a number inconsistencies with the current land use permissibility table of the Scheme. Uses that are of particular interest to the review of the MHCA Strategy are summarised in Table 1.

Table 1: Comparison of the WQPN 25 Land Use Compatibility Table and the Scheme's Table 1 Zoning Table.

	Special Rural	Rural Composite	Rural Agriculture	Rural Landscape <i>Table 1</i>	Rural Conservation	Priority 1 PDSWA	Priority 2 PDSWA	Priority 3 PDSWA
Aged/Dependant Dwellings	X	X	X	X	X	See Grouped Dwelling		
Aged Residential Care	X	X	X	X	X			
Agriculture - extensive	D	D	P	D	D			
pastoral leases						CC	AC	AC
floriculture (non irrigated), stock grazing (excluding pastoral leases) and broad hectare cropping						I	CC	AC
Agriculture - intensive	D	D	P	D	D			
aquaculture (fish, plants and crustaceans)						I	CC	CC
orchards; production nurseries– potted plants; viticulture– wine and table grapes						I	CC	AC
	Special Rural	Rural Composite	Rural Agriculture	Rural Landscape <i>Table 1</i>	Rural Conservation	Priority 1 PDSWA	Priority 2 PDSWA	Priority 3 PDSWA
floriculture; market gardens (see note 24); turf farms						I	I	CC
hydroponic plant growing						I	CC	CC
plant nurseries / garden centres						I	CC	A
Agro-forestry	Not Listed – See Agriculture Intensive, Animal Husbandry - Intensive					I	CC	AC

Amusement Parlour	X	X	X	X	X	I	I	A
Ancillary Accommodation	D	D	D	D	D	Not Listed - See as Grouped Dwelling		
Animal Establishment	X	A	A	X	X			
animal saleyards and stockyards (see note 13)						I	CC	CC
apiaries						CC	AC	AC
catteries						I	AC	AC
dairy sheds						I	CC	CC
dog kennels						I	CC	CC
equestrian centres (see note 17)						I	I	AC
feedlots, intensive outdoor livestock holding						I	I	CC
stables (see note 18)						I	CC	AC
	Special Rural	Rural Composite	Rural Agriculture	Rural Landscape	Rural Conservation	Priority 1 PDSWA	Priority 2 PDSWA	Priority 3 PDSWA
Animal Husbandry - intensive	X	X	X	X	X			
piggeries						I	I	I
poultry farming - housed						I	CC	CC
Art Gallery	X	X	X	A	A	Not Listed – See Exhibition Centre		
Bed and Breakfast (accommodating a maximum of 6 guests)	D	D	D	D	D	CC	A	A
Caravan Park	X	X	X	X	X	I	I	CC
Caretakers Dwelling	X	D	D	X	X	CC	CC	A
Chalets - short term accommodation (farm stay accommodation, rural chalets)	X	X	X	A	X	CC	CC	A
Child Care Premises	X	X	X	X	X	I	CC	A
Cinema/Theatre	X	X	X	X	X	I	I	A
Civic Use	X	X	D	D	D	I	CC	A
Club Premises	X	X	A	A	X			

Sporting or recreation clubs						I	CC	AC
Health centres						I	I	AC
Commercial Vehicle Parking	D	D	P	P	D	Not Listed		
Community Purpose	X	X	X	X	X			
community halls						I	CC	AC
	Special Rural	Rural Composite	Rural Agriculture	Rural Landscape	Rural Conservation	Priority 1 PDSWA	Priority 2 PDSWA	Priority 3 PDSWA
irrigated golf courses or recreational parks						I	I	CC
motor-sports (permanent racing facilities)						I	I	CC
public swimming pools/ aquatic centres						I	I	CC
rifle ranges						I	CC	AC
Consulting Rooms	X	X	X	X	X	I	CC	AC
Convenience Store	X	X	X	X	X	I	CC	AC
Educational Establishment	X	X	A	A	A			
community education centres, scientific research institution						CC	CC	AC
primary / secondary schools, tertiary education facilities						I	I	AC
Exhibition centre	Not listed - See Art Gallery					I	I	AC
Family Day Care	D	D	D	D	D	I	AC	AC
Fast Food Outlet	X	X	X	X	X	I	I	AC
Forestry (native forest/ silviculture/ tree farming)	Use not listed – Agriculture - intensive					CC	CC	AC
Garden Centre	X	A	X	A	X	Not listed		

	Special Rural	Rural Composite	Rural Agriculture	Rural Landscape <small>Takawaka</small>	Rural Conservation	Priority 1 PDSWA	Priority 2 PDSWA	Priority 3 PDSWA
Grouped Dwelling	X	X	X	X	X	I	I	AC
Health/Fitness Centre	X	X	X	X	X	Not Listed - See Club Premises		
Home Business	X	A	A	A	X	I	AC	AC
Home Occupation	P	P	P	P	P	CC	AC	AC
Home Store	X	X	X	X	X	I	CC	AC
Home office	Use not Listed – Does not Need Approval					CC	AC	AC
Hotel (includes hotels, hostels, resorts)	X	X	X	X	X	I	I	AC
Industry - Cottage	D	D	D	D	D	CC	CC	AC
Industry - Rural (I)	X	X	P	X	X			
Forestry products processing– chip mills, pulp/ paper, timber preservation, wood/ fibre works, composting/ soil blending - commercial						I	I	CC
Farm supply centres, manure stockpiling/ processing facilities						I	CC	CC
Animal product rendering works, tanneries, wool scours						I	I	I
Lodging House	X	X	A	X	X	Not Listed – See Bed and Breakfast		
	Special Rural	Rural Composite	Rural Agriculture	Rural Landscape <small>Takawaka</small>	Rural Conservation	Priority 1 PDSWA	Priority 2 PDSWA	Priority 3 PDSWA
Lunch Bar	X	X	X	X	X	I	CC	AC

Market (food; general produce; second-hand goods)	X	X	X	X	X	I	I	AC
Motel	X	X	X	X	X	I	I	AC
Museum (see exhibition centre)	X	X	X	X	X	I	I	AC
Office	X	X	X	X	X	I	CC	AC
Plantation	Not Listed – See Agriculture - intensive					CC	CC	AC
Recreation - Private (within non-designated recreation areas on Crown land)	X	X	X	X	X	I	I	AC
Reception Centre	X	X	X	A	X	I	I	AC
Restaurant (including cafes and tea rooms)	X	X	X	A	X	I	CC	AC
Rural Pursuit	D	D	P	P	D	Not Listed - See Agriculture, Animal establishment or husbandry		
Shop	X	X	X	X	X	I	CC	AC
Stable (See animal establishment)	P	P	P	D	D	I	CC	AC
Tavern	X	X	X	X	X	I	I	AC
Transport Depot	X	X	A	X	X	Not Listed - See Service Station		
Winery	X	X	A	D	D	I	CC	CC

Table 1 Legend:

LPS 3 Meanings:
P: Means that the use is permitted by the Scheme.
D: Means that the use is not permitted unless the council has granted planning approval.
A: Means that the use is not permitted unless the Council has granted planning approval after giving notice in accordance with the Scheme's Clause 9.4.
X: Prohibited Use
Land Use Compatibility in PWSAs
AC: Means that the use is acceptable by in WQPN 25.

CC: Means that the use is compatible with conditions in WQPN 25.
 I: Means that the use is incompatible in WQPN 25.

Table 2: MHCA Strategy variations to the Land Use Compatibility Table in WQPN 25.

Land use	P2
Restaurants (including cafés and tea rooms)	Compatible with conditions^
Exhibition centre	Compatible with conditions^
Irrigated golf courses or recreational parks	Incompatible #
Public swimming pools/aquatic centres	Incompatible #

^ *Proposals for onsite wastewater disposal should be consistent with the Government Sewerage Policy: Perth Metropolitan Region and will be assessed on an individual basis to consider site characteristics and management practices proposed.*

Compatible with conditions on Mundaring Recreational Oval and Golf Course (Reserve 7045), Mundaring Weir Road, Mundaring.

It was also recommended in the MHCA Strategy that a Special Control Area (SCA) be incorporated into the Scheme. This would allow the MHCA Strategy to be linked to the Scheme, and to inform future land use or development that may affect the quality of public drinking water sources from P1, P2 and P3 areas within the MCHA Strategy area. In accordance with this, Council has now adopted an amendment to the Scheme to implement a SCA over this area. The amendment is currently with the WAPC for the Minister for Planning’s determination.

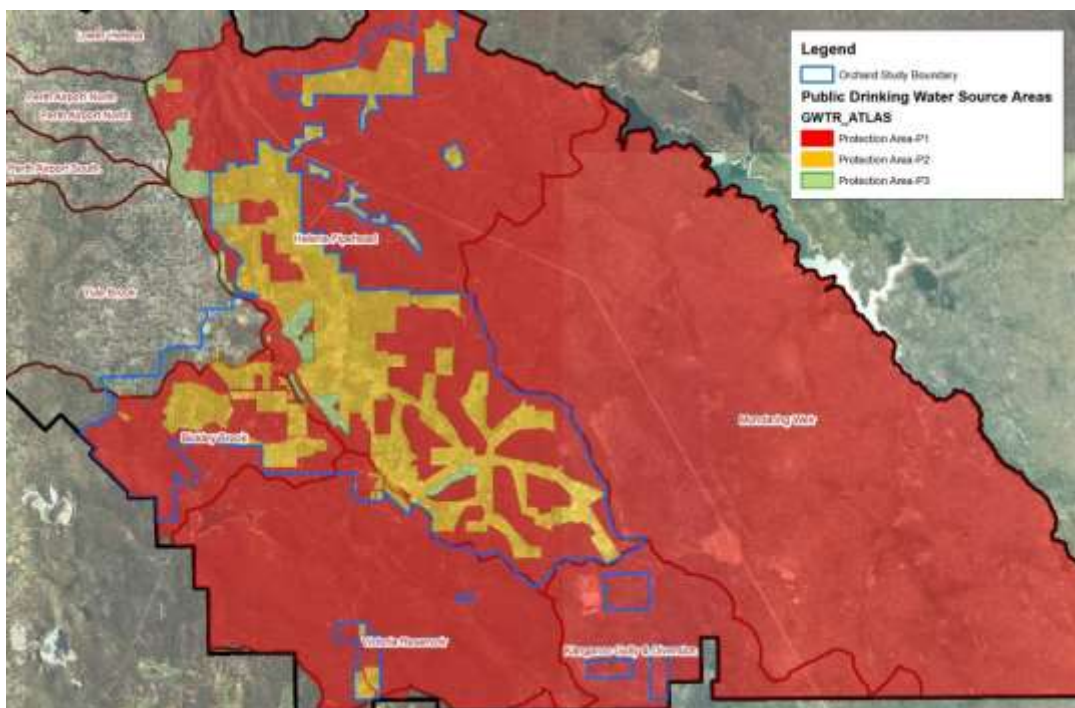


Figure 4: Public Source Drinking Water Areas, Source: DoW. Prepared by: Shire of Kalamunda.

Directions 2031 and Beyond (2010)

Metropolitan and *Network City* were previously adopted Regional Strategies relevant to the future planning of the Shire. Both have now been superseded by *Directions 2031 and Beyond* which is a special framework to guide the growth of Perth and the Peel region. A number of assumptions are made in the document, namely:

- A more compact city is desirable;
- We must work with the city we have;
- We must make more efficient use of land and infrastructure; and
- We must prioritise land that is already zoned for development.

The stated vision is: "*By 2031, Perth and Peel people will have created a world class liveable city; green, vibrant, more compact and accessible with a unique sense of place*". It is expected that the Perth and Peel regions and their people will:

- Be provided with high standards of affordable and diverse housing forms, education, and health care;
- Be tolerant and embrace diversity; and
- Give people a sense of identify and belonging.

Directions 2031 and Beyond promotes the 'connected city model', which assumes a more balanced distribution of housing, population, and employment across the metropolitan area. This model recognizes that future growth will be shaped in part by the planning decisions that have already been made. However, it will also require significant improvement over the next twenty years in targeted infill development, and an increase in intensity of greenfield residential development.

The key features of *Directions 2031 and Beyond* relating to the Study area are as follows:

- A target of 75% employment self-sufficiency has been set for the north-east sub-region, with an additional 42,000 jobs over the whole sub-region;
- An estimated increase in population of 69,000 across the whole sub-region; and
- The importance of the vast areas of forest for conservation within the Shire is acknowledged.

Draft Outer Metro Perth and Peel Sub-Regional Strategy (August 2010)

The DoP and the WAPC released the Draft Outer Metropolitan Perth and Peel Sub-Regional Strategy (the Sub-Regional Strategy) in August 2010 in conjunction with *Directions 2031 and Beyond*. While this document provides guidance at the metropolitan scale, the Sub-Regional Strategy provides detail at the local level. The Shire is part of the north-east sub-region, which also includes the City of Swan and the Shire of Mundaring. The Sub-Regional Strategy estimates that the population of the Sub-

region will grow by 69,000 people and that an additional 40,000 dwellings will be required.

The expectations for the Shire in the Sub-Regional Strategy are that an additional 14,100 dwellings are anticipated through a combination of planned new urban areas in Maida Vale South and utilisation of capacity in existing urban areas. Of this 14,100 estimate, 9,700 are anticipated in infill/redevelopment areas (Forrestfield, High Wycombe and Kalamunda central).

The main outcomes for the Shire is minimal development in the Study area owing to conservation of environmental values and lack of sewerage, industrial expansion in Forrestfield related to the expanding freight hub and growth of Perth Airport and rapid residential development in the Foothills owing to affordable residential land and rapidly growing employment opportunities. Identification of Maida Vale Road South and Wattle Grove as future urban centres.

Department of Water Policies and Protection Plans

Department of Water Statewide Policy No. 5 – Environmental Water Provisions Policy for Western Australia

This Policy describes the approach to be followed by the Water and Rivers Commission (now the Department of Environment Regulation) in determining how water will be provided to protect ecological values when allocating the rights to use water in Western Australia. The Policy lists the guiding principles to be followed when making such decisions and outlines a water allocation planning framework in which these principles are to be applied. The Policy also describes the relationship between the WAPC's approach to water resources planning and management processes under the provisions of the *Rights in Water and Irrigation Act 1914* and the Environmental Protection Authority's responsibilities under the provisions of the *Environmental Protection Act 1986*.

The primary objective of this Policy is to provide for the protection of water dependent ecosystems while allowing for the management of water resources for their sustainable use and development to meet the needs of current and future users. In meeting its primary objective, the policy must be considered within the context of the core objectives of the *National Strategy for Ecologically Sustainable Development 1992*. These are:

- To enhance individual and community wellbeing by following a path of economic development that safeguards the welfare of future generations;
- To provide equity within and between generations; and
- To protect biological diversity and maintain essential ecological processes and life support systems.

The *National Strategy for Ecologically Sustainable Development 1992* also adopted a precautionary principle as its basis for policy development and implementation at all levels of Government. The precautionary principle states that, where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Bickley Reservoir Catchment Area Drinking Water Source Protection Plan

The Bickley Reservoir is situated on the Bickley Brook, a tributary of the Canning River, approximately 22 kilometres east of Perth. The reservoir was previously a source of public drinking water for the Integrated Water Supply System which serviced Perth, Mandurah, Pinjarra, Harvey, and the Goldfields and agricultural regions. In 2013, the Bickley Catchment area was de-proclaimed as a drinking water source area, and consequentially, the DoW has revoked the Bickley Reservoir Catchment Protection Plan.

Victoria Reservoir Catchment Area Drinking Water Source Protection Plan

The Victoria Reservoir was the first permanent source of drinking water for the Perth metropolitan area and was constructed in 1891 on Munday Brook, a tributary of the Canning River, approximately 25 kilometres east of Perth. In 1990 the original dam was decommissioned, and a new dam was constructed in 1991, approximately 110 metres further upstream. The Reservoir remains a strategic source of public drinking water for the Integrated Water Supply System which supplies water to Perth, Mandurah, Pinjarra, Harvey, the Goldfields and agricultural regions. The majority of the Victoria Reservoir Catchment falls within the Shire, with small sections in the Cities of Gosnells and Armadale. Refer to *Figure 4* for the location of the Victoria Reservoir and its catchment area.

The objective of the Victoria Reservoir Catchment Area Drinking Water Source Protection Plan is to recommend protection strategies to ensure land uses and activities in the catchment are managed to protect the water quality of this important drinking water source. The following strategies are recommended to protect the Victoria Reservoir drinking water source:

- All Crown land should be managed for P1 source protection, except for reserve 26315, managed by the Shire as a golf course, which should be P2;
- Private land should be managed for P2 source protection, except for the shopping area on the corner of Pickering Brook Road and Canning Road (which includes a fuel station, automotive workshop and general store), which should be managed for P3 source protection;
- The catchment, including the Reservoir Protection Zone and P1 classification area, should be recognised in the relevant local planning strategies and schemes, specifically the Shire, City of Gosnells and City of Armadale Town Planning Schemes; and
- Best management practices for current or approved land uses in the catchment should be



Kalamunda.

4. LOCAL PLANNING CONTEXT

Local Planning Scheme No. 3

The Scheme was gazetted on 22 March 2007. The Scheme applies to the whole of the Shire, zoning and reserving land for specific purposes. The Study area includes urban and rural land and local and regional reservations. The Shire does not administer use and development of regional reserves. Within the Study area, the following rural zones apply:

- Special Rural;
- Rural Agriculture;
- Rural Landscape Interest; and
- Rural Conservation.

The Scheme provides objectives for each zone and nominates minimum lot areas for subdivision based on performance criteria. These provisions form the basis for the Shire's subdivision referral responses to the WAPC, and for decisions in relation to development applications. The total land in the Study area with a rural zoning is 3,293 ha as shown below:

- Rural Agriculture – 46% (1,529 ha);
- Rural Conservation– 29% (969 ha);
- Rural Landscape Interest – 16% (486 ha);
- Special Rural – 6% (210 ha); and
- Residential Bushland – 3% (99 ha).

The objectives of these zones are the following:

Special Rural

- Enable smaller lot subdivision to provide for uses compatible with rural development; and
- Retain the amenity and rural landscape in a manner consistent with orderly and proper planning.

Rural Landscape Interest

- Ensure development is in harmony with the natural environment;
- Ensure that land uses, activities and land management practices are consistent with natural resource conservation and are compatible with public water supply objectives;
- Conserve the natural vegetation, where such exists, so as to maintain a diversity of landscape

- quality and preserve and promote natural ecosystems;
- Conserve water quality and water course capacity to enable appropriate beneficial land use activities to be undertaken;
- Retain large lot sizes which will allow for rural activities; and
- Encourage the reduction of bushfire hazard.

Rural Conservation

- Ensure development is in harmony with the natural environment;
- Ensure that land uses, activities and land management practices are consistent with natural resource conservation and are compatible with public water supply objectives;
- Conserve and preserve the bushland status of private freehold and Crown land within the zone;
- Conserve indigenous flora and fauna to ensure the viability of natural ecosystems;
- Encourage the reduction of bushfire hazard; and
- Retain large lot sizes.

Rural Agriculture

- Protect and maintain the hills horticultural industry;
- Ensure the conservation of soil and water resources important to the wellbeing of the horticulture industry;
- Ensure that land uses, activities and land management practices are consistent with natural resource conservation and are compatible with public water supply objectives;
- Limit the amount of subdivision supported to that which complies with the subdivisional land use and development requirements of this zone;
- Conserve the physical and visual environment of the area; and
- Encourage the reduction of bushfire hazard.

Residential Bushland

- Promote the development and use of land primarily for single detached houses, ensuring that development is designed and sited in a manner which is sensitive to the environmental characteristics of the land;
- Give due consideration to land uses that are compatible with the amenity of surrounding residential development; and
- Encourage the retention and rehabilitation of native vegetation and the minimisation of bushfire hazard.

Specific land uses for each zone are identified in the Scheme's Table 1 (Zoning Table). Land uses are identified as permitted, discretionary or prohibited. Within the Study area, the Scheme also identifies properties where Additional Uses beyond those stipulated in the zoning table are permitted in specific

properties.

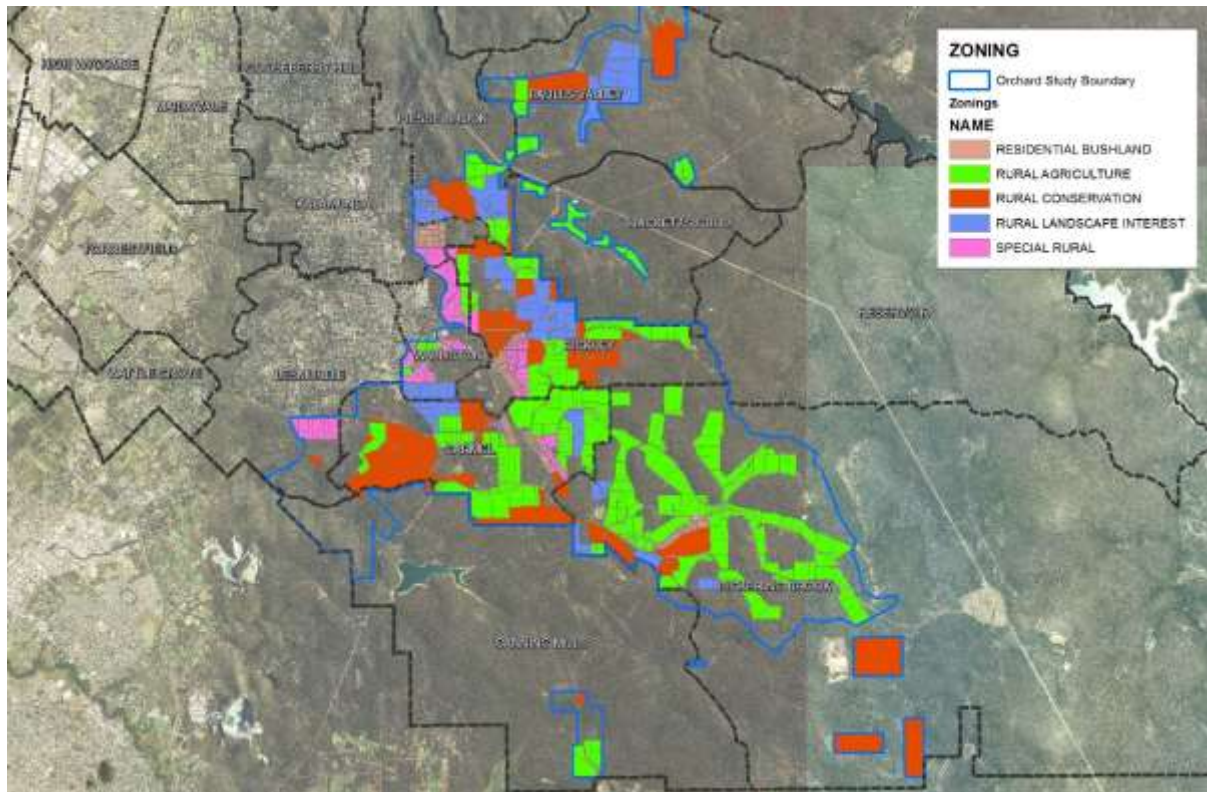


Figure 6: Rural Zonings within the Hills Rural Study Boundaries. Source: Shire of Kalamunda.

Local Planning Strategy

In 2008, Council resolved to prepare a Local Planning Strategy (LPS). The purpose of an LPS is to enable Council to determine the vision and strategic planning direction for the Shire for 20 years. The Shire's LPS was finally adopted by the WAPC in 2012. A key recommendation of this LPS is that a review of the Hills Orchard Study be undertaken, it was identified that this review should investigate the potential for further subdivision, development, and tourism opportunities within the Study area.

In respect to the Study area, the following strategic issues were identified:

Future of the Special Rural Areas

The LPS acknowledges that there is pressure for urban growth within 'Special Rural' zoned land given its locational attributes.

Future Land Uses in the Orchard Areas

The LPS acknowledges the continual pressure to reduce the lot sizes in the orchard areas due to social, demographic, and economic changes in these areas.

Sustainable Development Based on the Shire's Biodiversity Strategy

The Shire has a relatively high percentage of remnant vegetation and natural areas compared to other Local Governments in the metropolitan area. The Shire's Biodiversity Strategy (2008) facilitates the protection of all local natural areas and environmentally sensitive areas through the planning process.

Facilitation of Tourism Development Opportunities

The Strategy identifies a number of potential tourism development opportunities in the Study area. The concept of 'agri-tourism' is further explored in Chapter 6 of this study.

Population Projections and Future Growth

The LPS sets out four population growth scenarios. Whilst mostly applicable to existing urban areas, or potential future urban areas in the foothills, it does identify three investigation areas in the Study area. Two of these areas will potentially be identified for 'Special Rural' zoning, allowing minimum lot areas of one hectare. The third is identified as the Pickering Brook Townsite Investigation Area. This area has been identified for potential expansion of a scale yet to be determined. The investigation area is predominantly cleared and does not contain significant indigenous vegetation or primary production.

Bushfire Protection


The LPS identifies the need for bushfire protection to be incorporated in various planning instruments. The Shire has pursued this issue through the development of a bushfire mapping which will be linked to the Scheme.

Relevant Local Planning Policies

The Scheme allows the Shire to prepare policies related to any planning matter. When determining a matter that is subject to a Local Planning Policy, the Shire is not fettered by the Policy, but must give it due regard.

Adopted Policies relevant to the Study area include:

- Outbuildings – Guidelines for Assessment.
- Flood and Stream Management – Guidelines for Assessment.



The Shire is developing a Tree Preservation Policy, however this will only apply to indigenous vegetation and not primary production.

5. SITE CONEXT

Population Characteristics

The purpose of evaluating population and employment within the Study area is to identify demographic trends in the Study area, and in particular, to determine the extent to which the traditional horticultural/agricultural based community is being replaced by a new rural/residential community.

The information in this chapter has been gained by comparing census data from 1986 and 2011. As the Study area encompasses the localities of Piesse Brook, Pauls Valley, Hacketts Gully, Bickley, Carmel, Canning Mills, Pickering Brook and Parts of Walliston, census data from the comparable census area referred to as the 'East Rural' area has been used. This area is depicted in Figure 7 below.

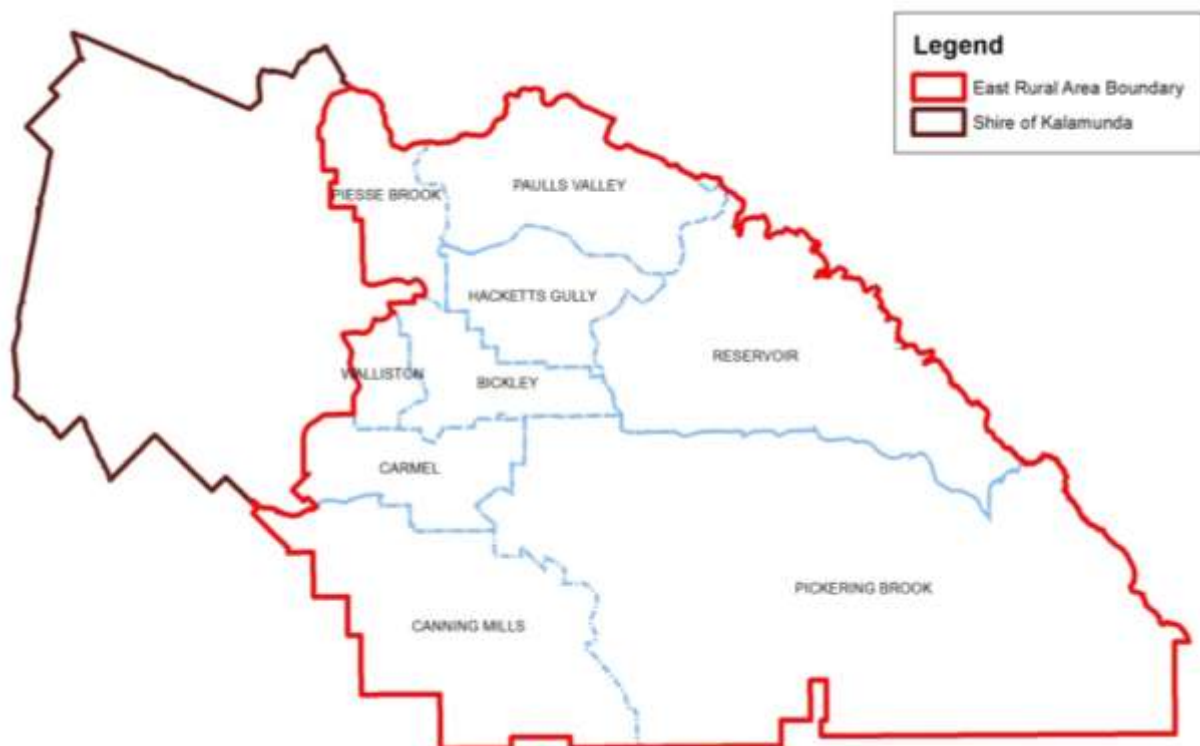


Figure 7: East Rural Area Boundary Locality. Source: Australian Bureau of Statistics.

Population and Age composition

The population of the 'East Rural' area increased by 194 people from 3068 people in 1986 to 3262 people in 2011, a 6.3% increase. In 2011, 51% of the population were male compared to 52% in

1986. In 1986, 55% of the population in the orchard area was under 35 years of age. This reduced to 41% of in 2011. The shift in the age structure between these two census periods is visible in Figures 8 and 8 below.

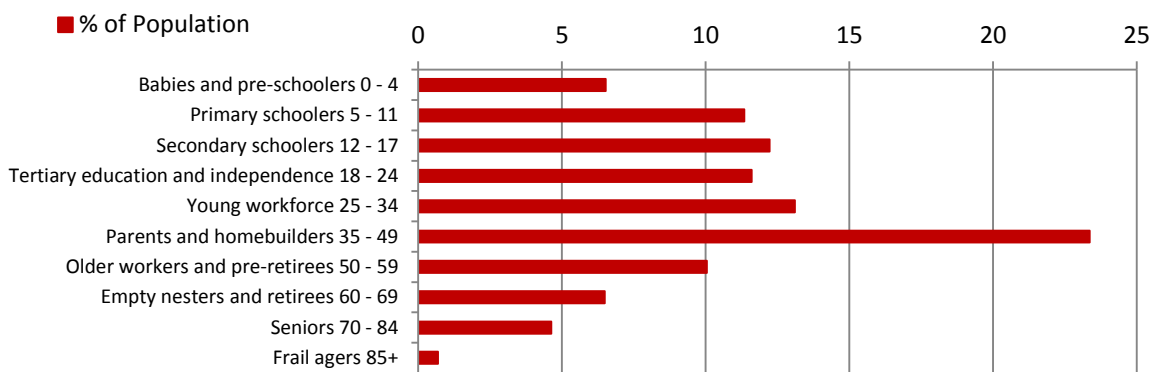
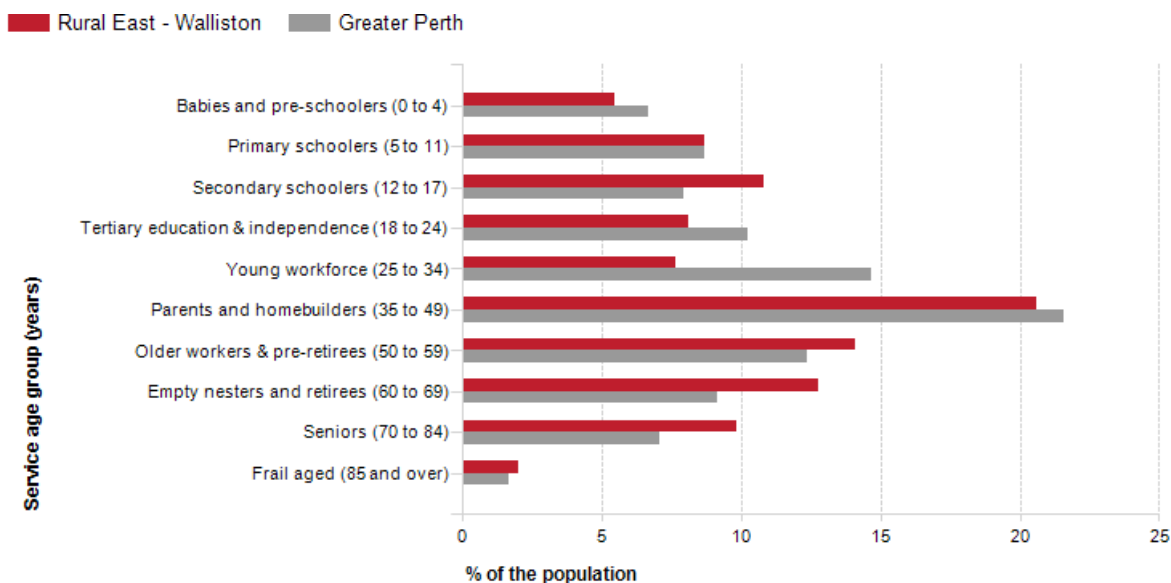


Figure 8: Age Structure in the East Rural census area, 1986.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual residence data)
Compiled and presented by .id, the population experts.



Figure 9: Age Structure in the East Rural census area, 2011.

Household Profiles

Between 1986 and 2011, the number of households with children decreased from 575 households (62%) to 551 households (49%) in the 'East Rural' area. Households containing couples without children increased from 24% to 28%. Lone person households increased from 11% to 17% while 'other families' (households where extended family members live) decreased from 1% to 0.5%.

It is possible that the fall in family and extended family households corresponds to a decrease in the

traditional family structure on orcharding properties whereby family members work the property as a family enterprise. Furthermore, it is possible that an increasing number of family members in the Study area seeking work and education opportunities elsewhere, thus leading to a decrease in family household, the number of orchards and land under production within the 'East Rural' area. The trends are visible in Figures 10 and 11 below.

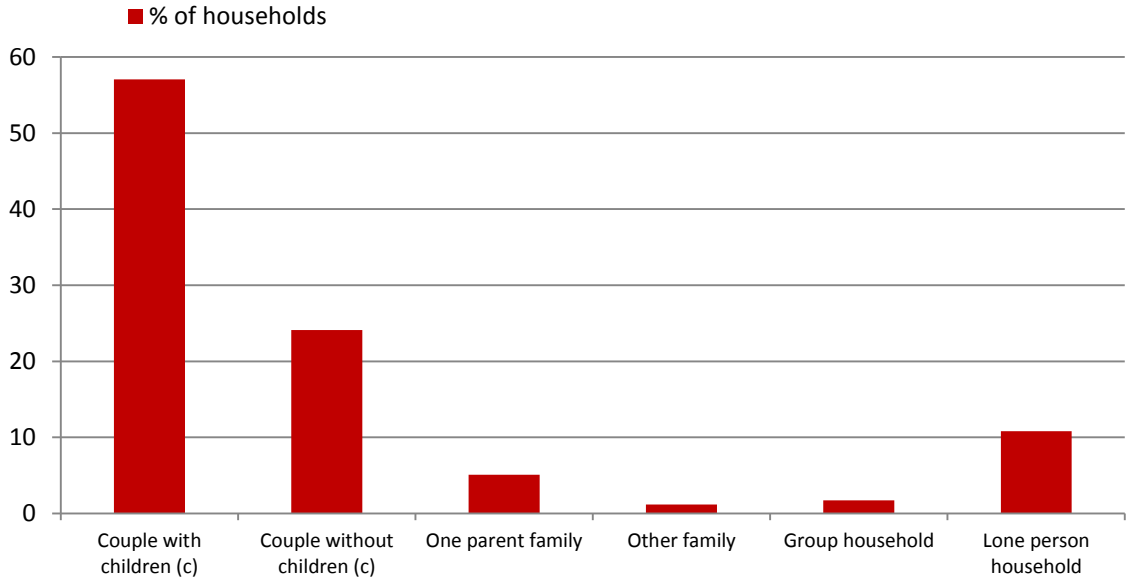
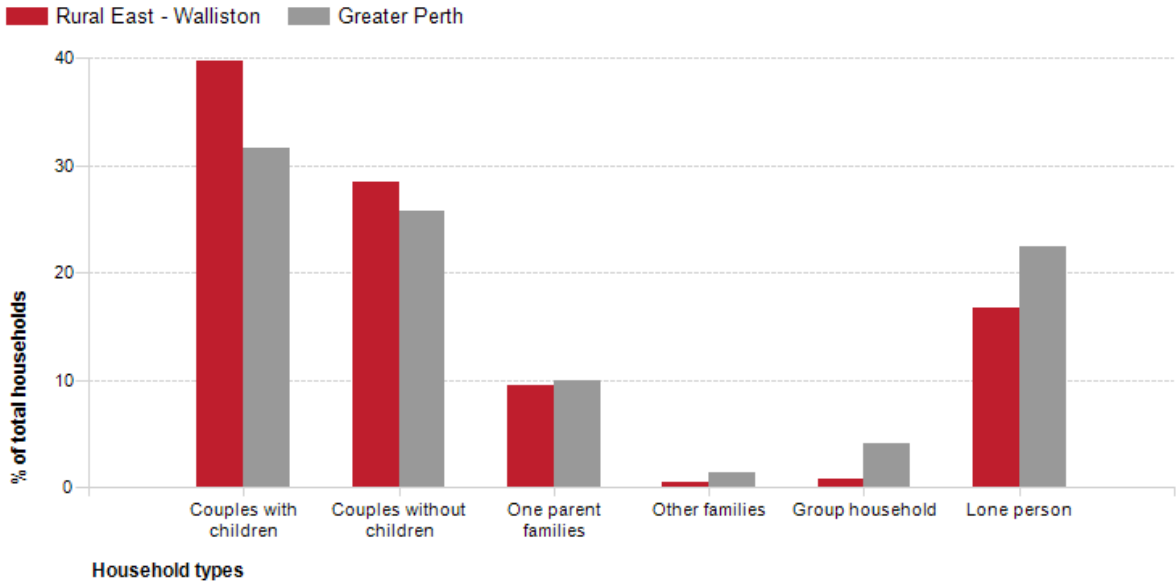


Figure 10: Household Types in the East Rural Census area, 1986.



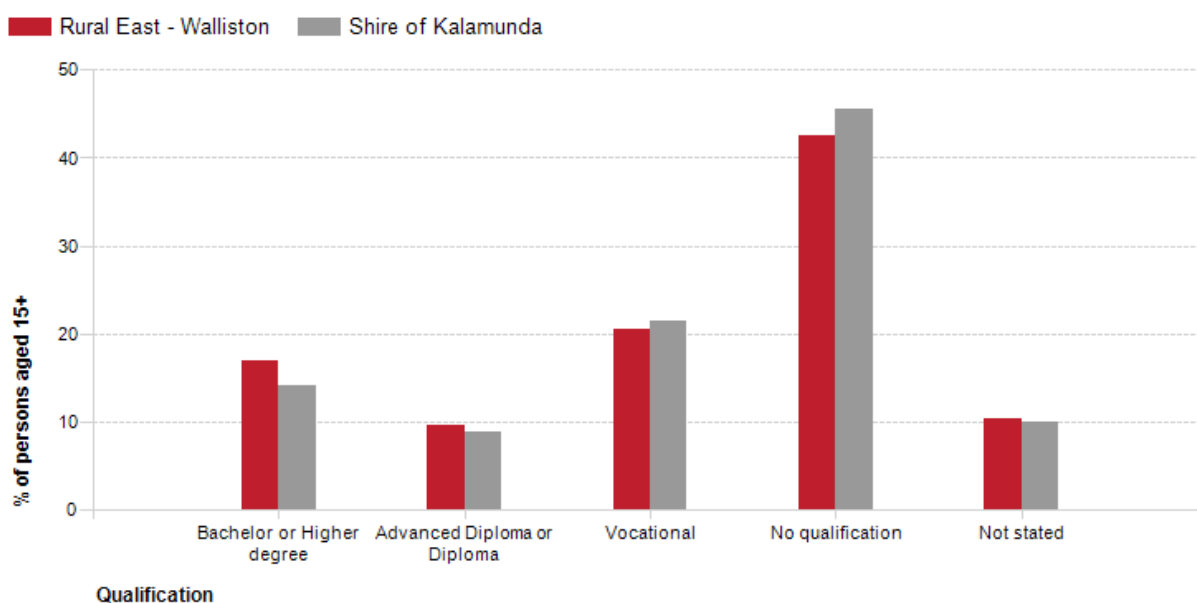
Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Enumerated data)
 Compiled and presented by .id, the population experts.



Figure 11: Household Types in the East Rural census area, 2011.

Education

In 2011, 42% of people in the 'East Rural' area over the age of 15 did not have any qualifications, which was lower than the whole Shire which had 46%. The 'East Rural' area also had a higher percentage of people with a Bachelor degree or higher (17%), Advanced Diploma or Diploma (10%) when compared to the whole Shire area. In contrast, the 'East Rural' area had less people with vocational level education at 20% compared to 21% for the whole Shire. These figures are illustrated in Figure 12 below.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual residence data)
Compiled and presented in profile.id by .id, the population experts.



Figure 12: Highest Qualification Achieved, 2011.

Employment

In 1986, the largest portion of the workforce (16%) were involved in the agriculture, forestry and fishing industry. This portion had reduced to 7% in 2011 as visible in Figures 13 and 14 below. In 2011, the largest portion of the workforce (10%) were involved in the education and training industry. It is possible that between 1986 and 2011 there has been a decrease in people involved in orcharding, and a shift towards finding employment outside of the area.

It could be assumed that traditional residents of the 'East Rural' area, a large portion of which were involved in the orcharding industry, are gradually being replaced by people looking for a different lifestyle, who may have purchased property for rural-residential purposes, and who may commute to work. Figures 13 and 14 below show that many of these people may be working in the mining industry and be relatively high income earners who can afford to purchase large parcels of land for rural-residential living.

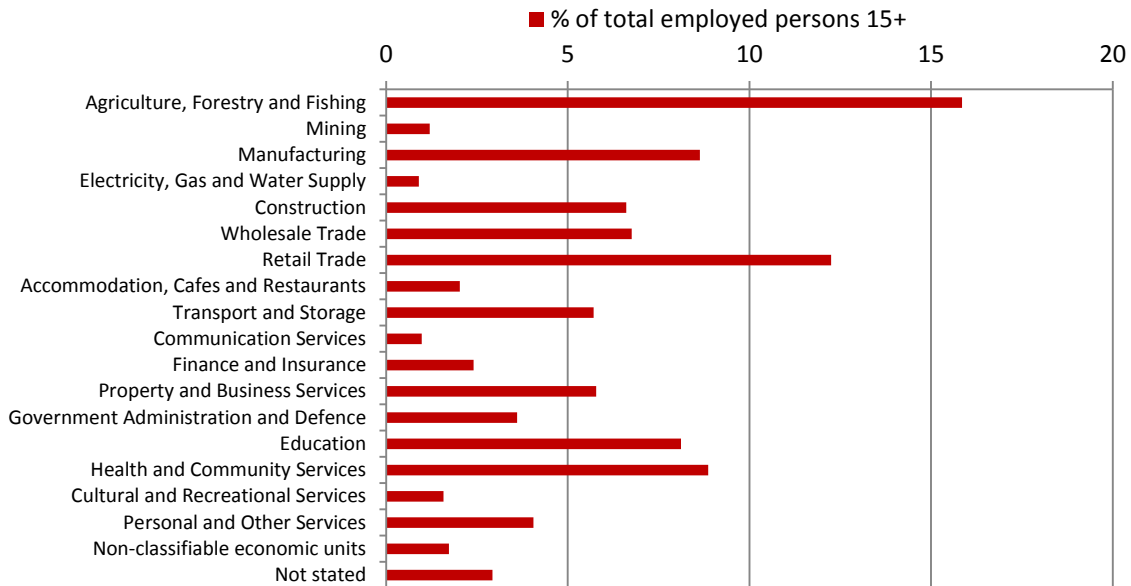
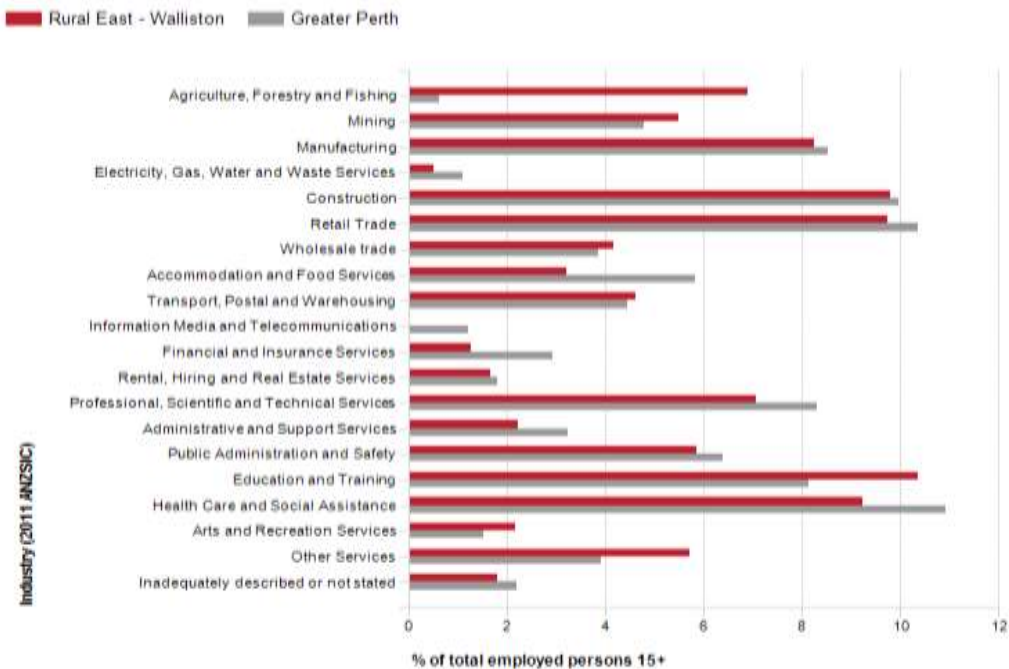


Figure 13: Employment in the East Rural area by Industry, 1986.



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual residence data)
 Compiled and presented by .id, the population experts.



Figure 14: Employment in the East Rural area by Industry, 2011.

Ethnic Origin

The census data from 'East Rural' area in 1986 shows that the top five ancestries nominated as:

- English (1,235 people or 40%)
- Australian (479 people or 16%)
- Italian (471 people or 15%)
- British (115 people or 4%)
- Scottish (87 people or 3%)

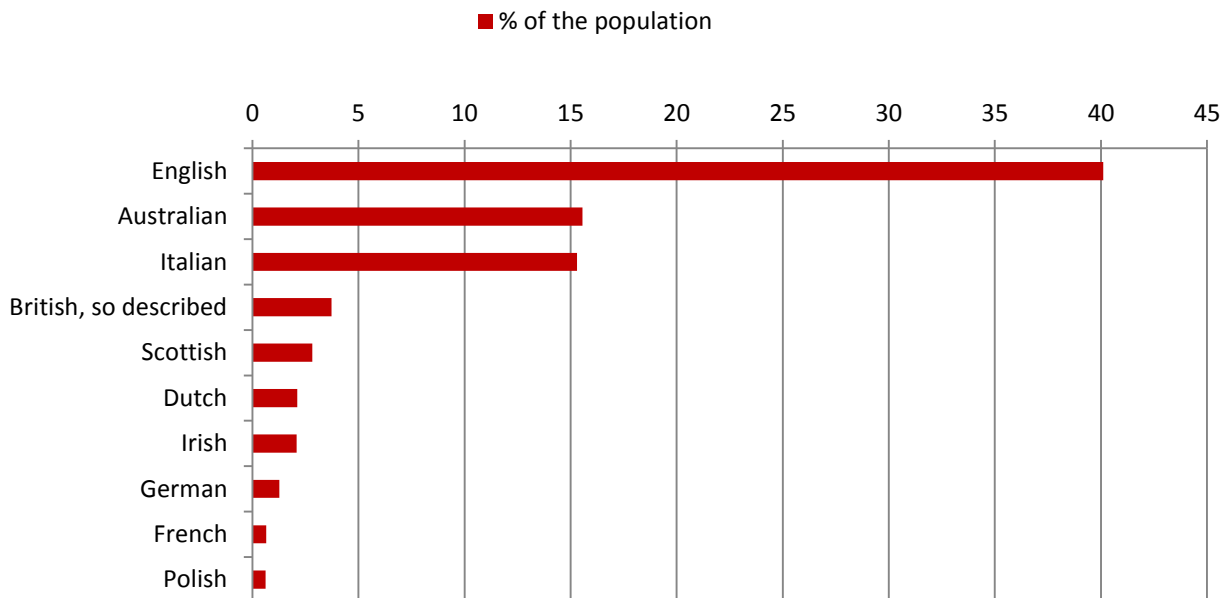
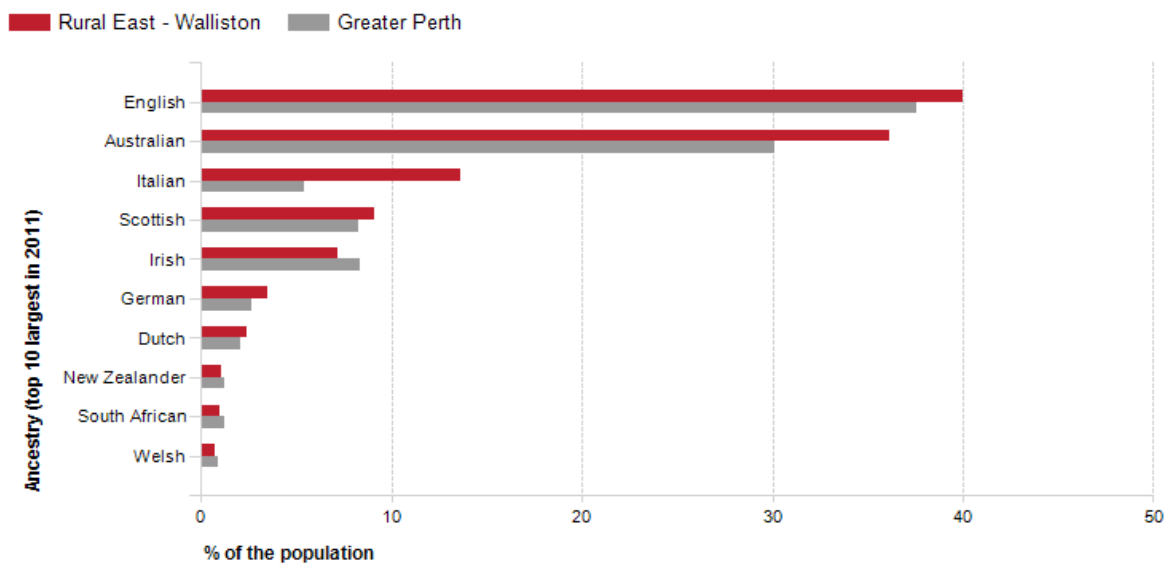


Figure 15: Ancestry data for Rural East area, 1986.

The census data from 'East Rural' area in 2011 shows that the top five ancestries nominated as:

- English (1,305 people or 40.0%)
- Australian (1,179 people or 36.2%)
- Italian (443 people or 13.6%)
- Scottish (295 people or 9.1%)
- Irish (232 people or 7.1%)



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual residence data)
 Compiled and presented by .id, the population experts.



Figure 16: Ancestry data for East Rural area, 2011.

The greatest portion of the population identified themselves as being of English ancestry in both 1986 and 2011. This was followed by Australian in both years, however, this response increased from 16% to 36% in 2011. Italian was third in both years but this response decreased marginally from 15% to 14%. Italian families have had a strong presence in the orchard industry in the Rural East area historically and still make up a significant proportion of the population when compared to the greater Perth area.

Population density

Within the 'East Rural' area in 2011, the locality with the highest population density was Walliston with 2.4 persons per hectare. This was followed by Bickley and Carmel with 0.7 and 0.6 persons per hectare respectively as illustrated in Figure 17 below.

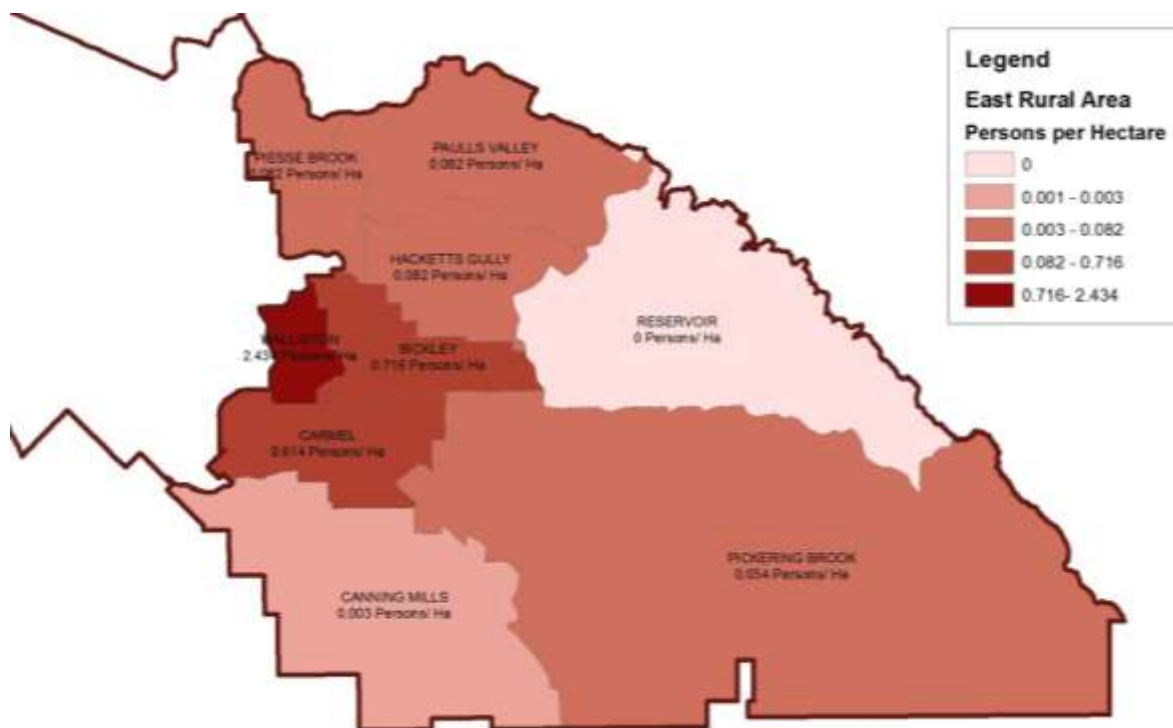


Figure 17: Population Density of the East Rural area. Source: Australian Bureau of Statistics and Prepared by the Shire of Kalamunda.

Population Forecasts and Projections

Based on population figures from the 2001, 2006 and 2011, the population of the 'East Rural' area has increased at an average rate of 2.3% per census year. At this rate it is estimated that the population of the area will be 3336 persons in 2016.

Land Use

The Study area was originally identified as timber production region in the late 1800s. In 1903 the Zig-Zag railway connected Pickering Brook to Midland. As the timber industry continued and native vegetation was cleared away, a transition to agriculture occurred in the area. Vegetables and citrus fruit, and predominately stone and pome fruit have been produced on the land since this time.

Zoning

The Scheme zone 'Rural Agriculture' covers an area of area of 1529 ha in the Study area, and includes 527.6 ha (34.5%) of the land under production as of January 2013. There are currently 302 properties zoned as 'Rural Agriculture' and 209 of these (69%) are smaller than the minimum lot size of 6 ha.

Plans depicting the zoning of the Study area are included as Figures 18, 19 and 20 below.

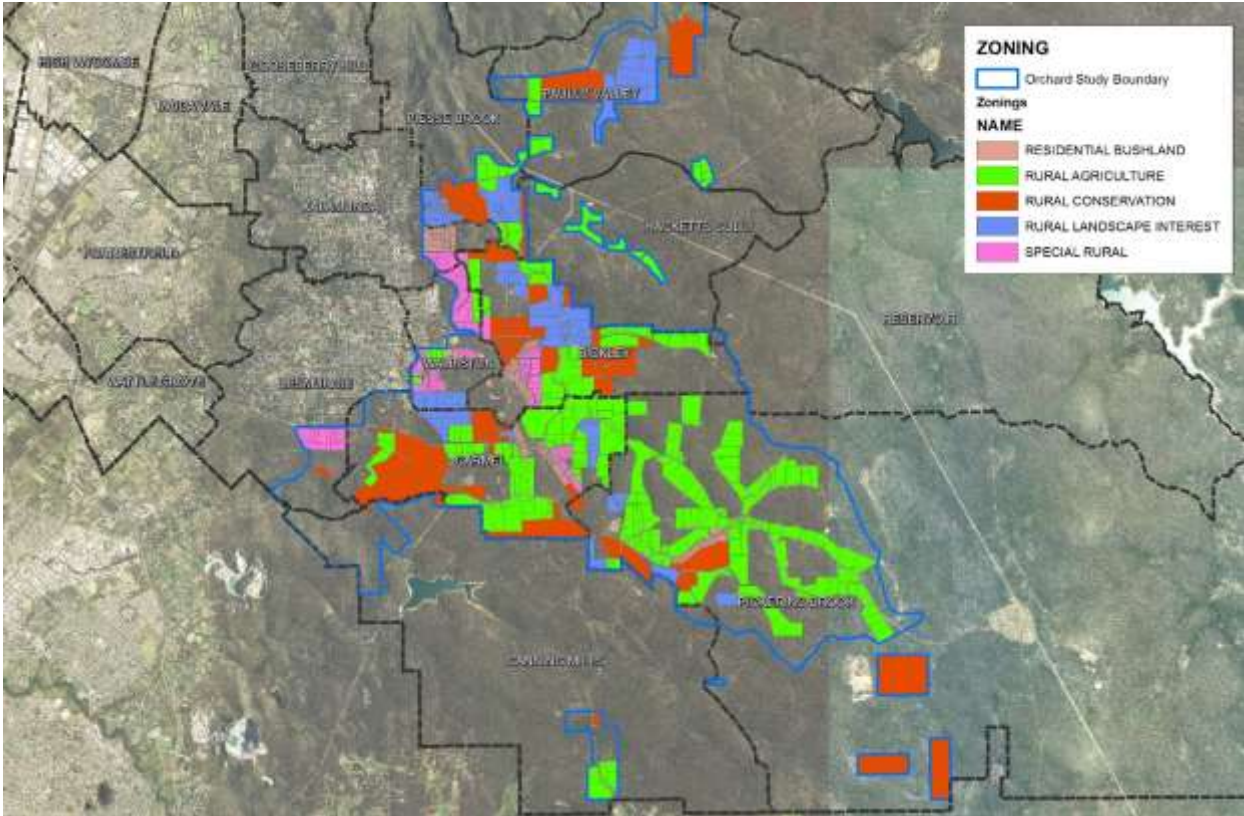


Figure 18: Rural Zonings within the Study area. Source: Shire of Kalamunda.

Aerial Analysis

Using aerial photos taken in 1985 and 2012, rural zoned lots within the Study area were individually analysed to determine if the land was being used for orcharding. The results of this analysis are outlined in Table 3 below.

Table 3: Change in Orchard Activity between 1985 and 2012.

Orchard Activity between 1985 and 2012	Number of Properties
All Orchardng Gone – Orchardng existed to some degree in 1985, but all fruit trees appear to have been removed by 2012.	119
Decrease – 2012 photos reveal a notably decreased level of orcharding compared to the levels in 1985.	22
Increase in Orchardng – 2012 photos reveal a notably increased level of orcharding compared to 1985, including properties that did not have any orcharding in 1985.	33
No Change– No significantly change between 1985 and 2012.	77
Never Any Orchardng – Orchardng has not been observed in either 1985 or 2012.	227

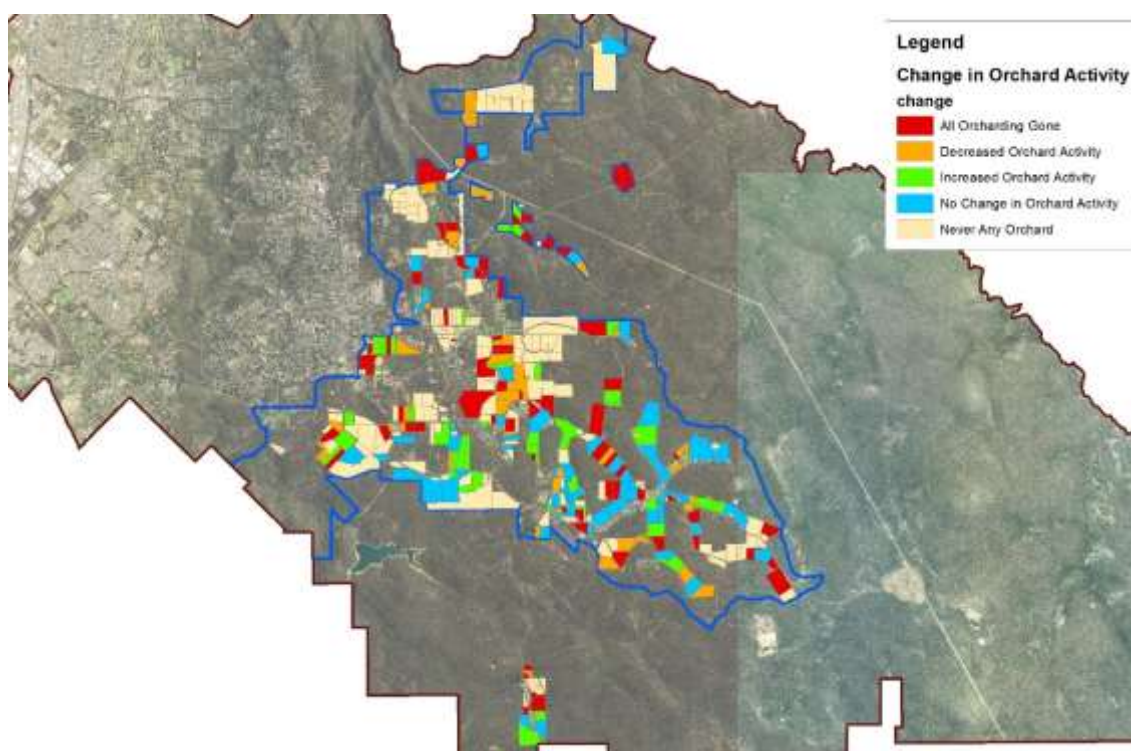


Figure 21: Change in Orchardng between 1985 and 2012. Source: Shire of Kalamunda.

As part of the aerial analysis, individual polygons were traced around land which appeared to be under production in both 1985 and 2012. The results of this analysis were used to provide an estimate of the physical area of land being used for horticulture in these years.

Figures 22 – 24 depict the changes to the extent of horticultural land between 1985 (approximately 758 ha), and 2012 (approximately 559 ha). This amounts to a net loss of 26% of land under production for the entire Study area, and 22% for the 'Rural Agriculture' zone.

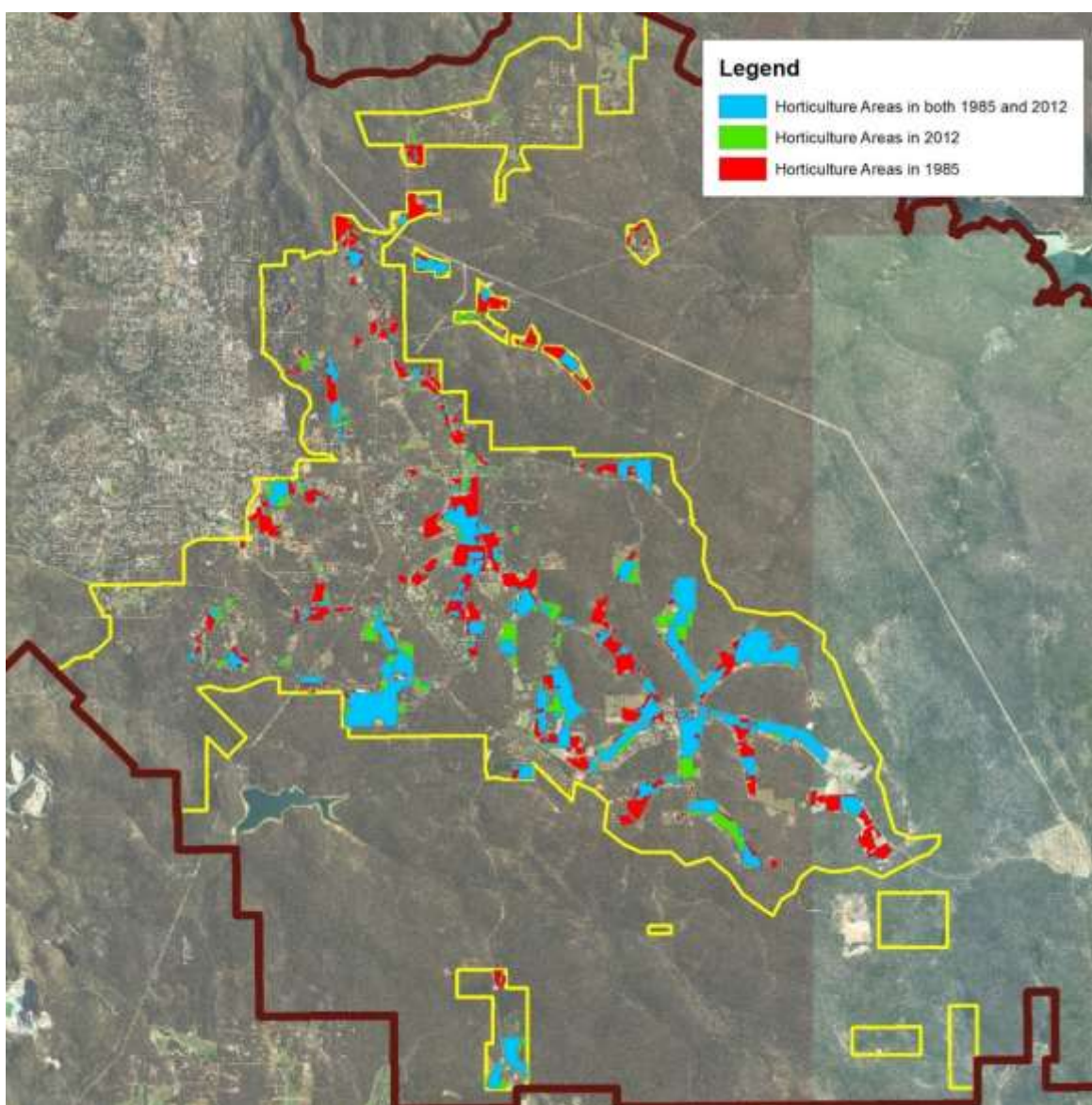


Figure 22: Change in Orchardling Activity (hectares under production) between 1985 and 2012. Source: Shire of Kalamunda.

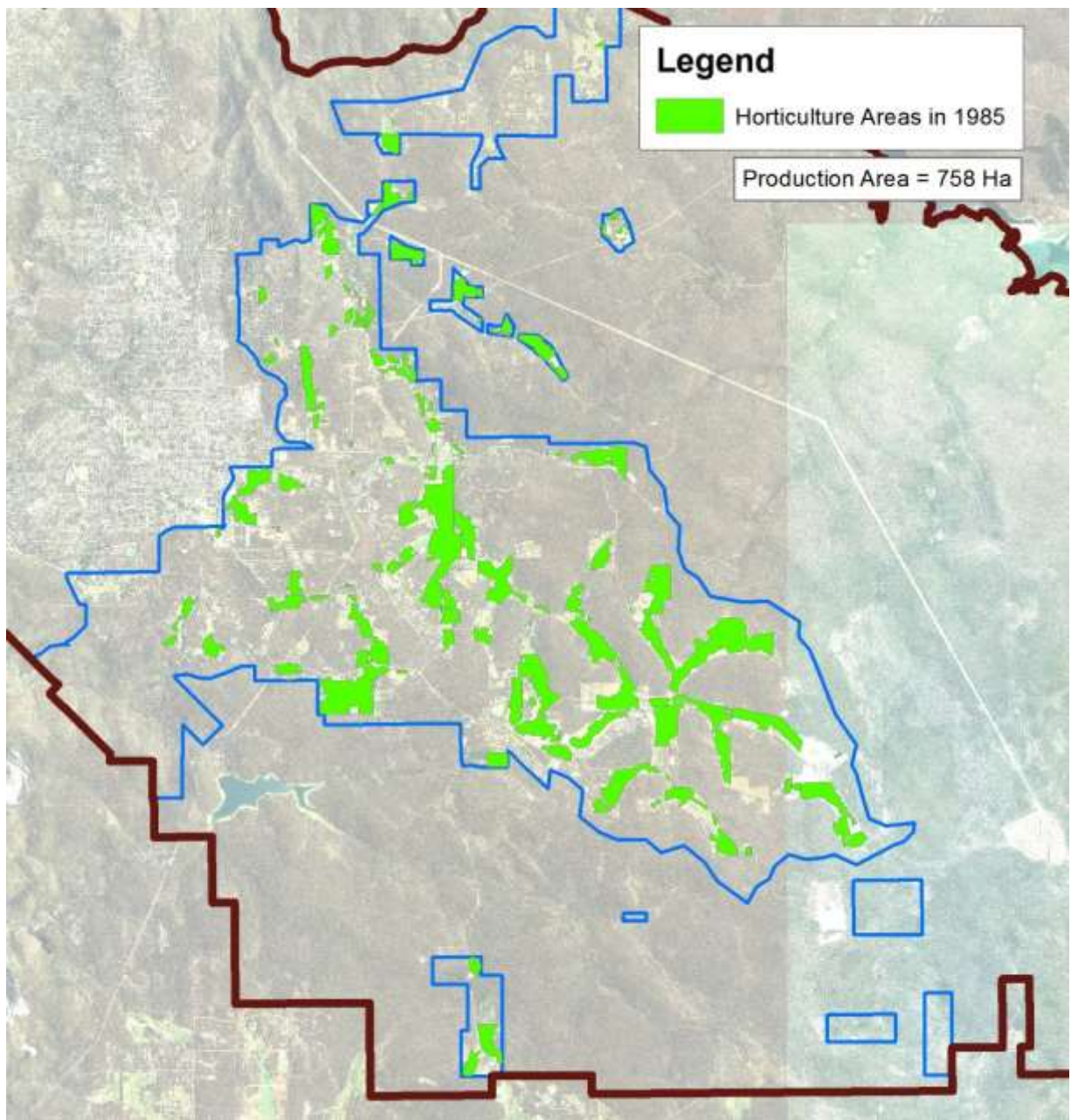


Figure 23: Orchard Areas Previously Under Crop (1985). Source: Shire of Kalamunda.

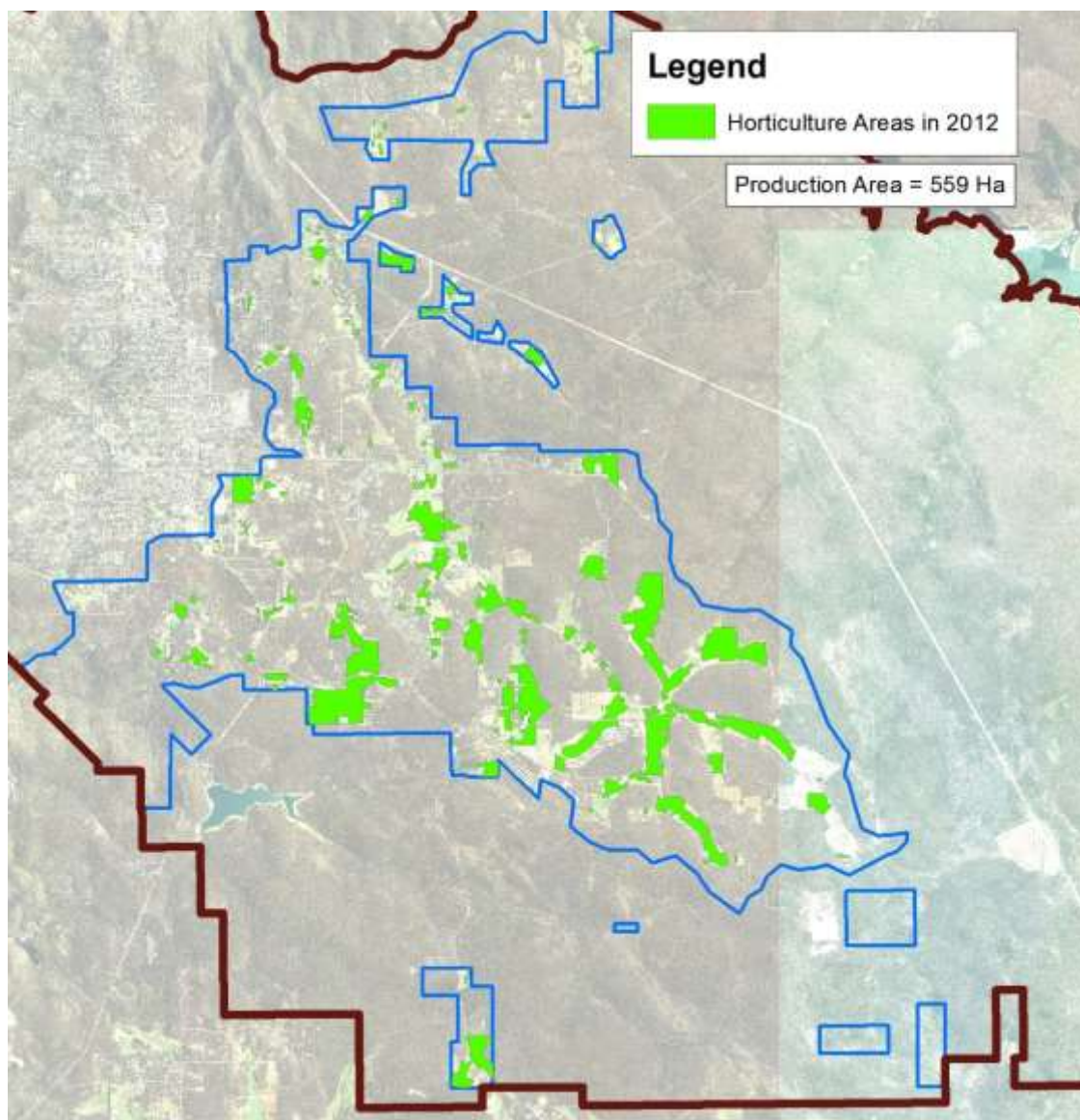


Figure 24: Orchard Areas Currently Under Crop (2012). Source: Shire of Kalamunda.

The Natural Environment

Landform, Soils and Land Capability

Soil Landscape Mapping

The Study area is situated within the western portion of the Darling Plateau inland from the Darling Scarp. The landforms and soils of this area have been described and mapped by the DAFWA as part of the Darling Range Rural Land Capability Study (King and Wells 1990), and subsequently incorporated into the DAFWA's database associated with its State-wide soil-landscape mapping program. The relevant portion of the soil-landscape mapping is included as Figure 25. Excluding

areas zoned 'Parks and Recreation' under the MRS, the various rural zoning categories within the Study area encompass ten map units (landform/soil types) that are described in Table 4.

Although the most commonly occurring conditions within each of the map units are included below, the relatively broad (1:50,000) publication scale of the Darling Range mapping results in an inherent range of possible soil and landform components as outlined in Appendix 3: Map Units – Inherent Variability. Any further delineation of these components would require more detailed field-work and mapping, on a property by property basis, and is considered unnecessary for the purposes of this study. The soil-landscape mapping and associated interpretations of land degradation risks and capability in this document are therefore essentially similar to those contained within the original Hills Orchard Study (1988).

Lateritic Uplands

The higher portions of the landscape (the Darling Plateau soil landscape system) are dominated by gently undulating lateritic uplands (Dwellingup subsystem) and shallow, weakly incised valleys (Yarragil subsystem). Well drained gravelly soils dominate the Dwellingup subsystem in the higher portions of the landscape, while the very shallow valleys of the Yarragil subsystem contain predominantly moderately well drained duplex soils and earths on side-slopes, and more poorly drained 'semi-wet' and duplex soils within valley floors. A distinctive feature of the 'Yarragil' valleys is that exposures of the Darling Plateau's underlying granitic or gneissic basement rocks are absent due to the weak degree of incision associated with their relatively minor watercourses.

Valleys Incised Below the Lateritic Uplands

The lower portions of the landscape (Murray valleys soil-landscape system) comprise valleys where the watercourses have created a greater degree of incision through the Darling Plateau's lateritic upland surface and into the underlying basement rock. These valleys characteristically contain occasional exposures of basement rocks (predominantly granite and some dolerite) and the associated soils are moderately well to well drained loamy surfaced duplex soils or gradational earths. The most deeply incised, and commonly steep sided valleys, form the Helena soil-landscape subsystem. While still sufficiently deeply incised to expose basement rocks and the associated loamy surfaced soils, the Murray and Myara subsystems represent the progressively smaller valleys, or portions of valleys, extending inland and towards the source of their watercourses within the Yarragil subsystem within the upland plateau surface

Relationship to Orchard Areas

Most of the Study area is contained within the Middle Helena catchment area which encompasses the localities of Piesse Brook, Paulls Valley, Hacketts Gully, Bickley, Pickering Brook and the eastern part of Carmel. The Piesse Brook locality contains the more deeply incised valley landform (Helena

soil-landscape subsystem) which progressively gives way to the Murray and Yarragil subsystems moving upstream along the Piesse Gully watercourse.

The Paulls Valley locality contains small areas of the Myara soil landscape subsystem but, in common with the nearby Hacketts Gully locality, the predominant valley landform is the Yarragil subsystem which is only weakly incised into the plateau surface. Between the valleys, the upland lateritic surface (Dwellingup soil-landscape subsystem) is predominantly under remnant native vegetation and reserved as 'Parks and Recreation' under the MRS.

A lesser but still significant portion of the Study area is located within the Bickley Brook catchment encompassing the western part of the Carmel locality. As in the Paulls Valley locality, the Bickley Brook catchment contains small areas of the Myara soil-landscape subsystem but the dominant valley landform encompassing the remaining orchards is part of the Yarragil subsystem. Minor parts of the Study area also exist in the Walliston and Canning Mills localities. Remaining orcharding areas in these localities form part of weakly incised Yarragil type valleys which drain into Yule Brook and Munday Brook (Victoria Reservoir) respectively.

Susceptibility to Land Degradation

An assessment of the susceptibility of Study area map units (landform/soil types) to various forms of land degradation is included in Appendix 4 – Susceptibility to Land Degradation. It should be noted that the assessment refers to land considered susceptible to various forms of land degradation, whereas the actual occurrence of land degradation will be determined by how the land is used and managed.

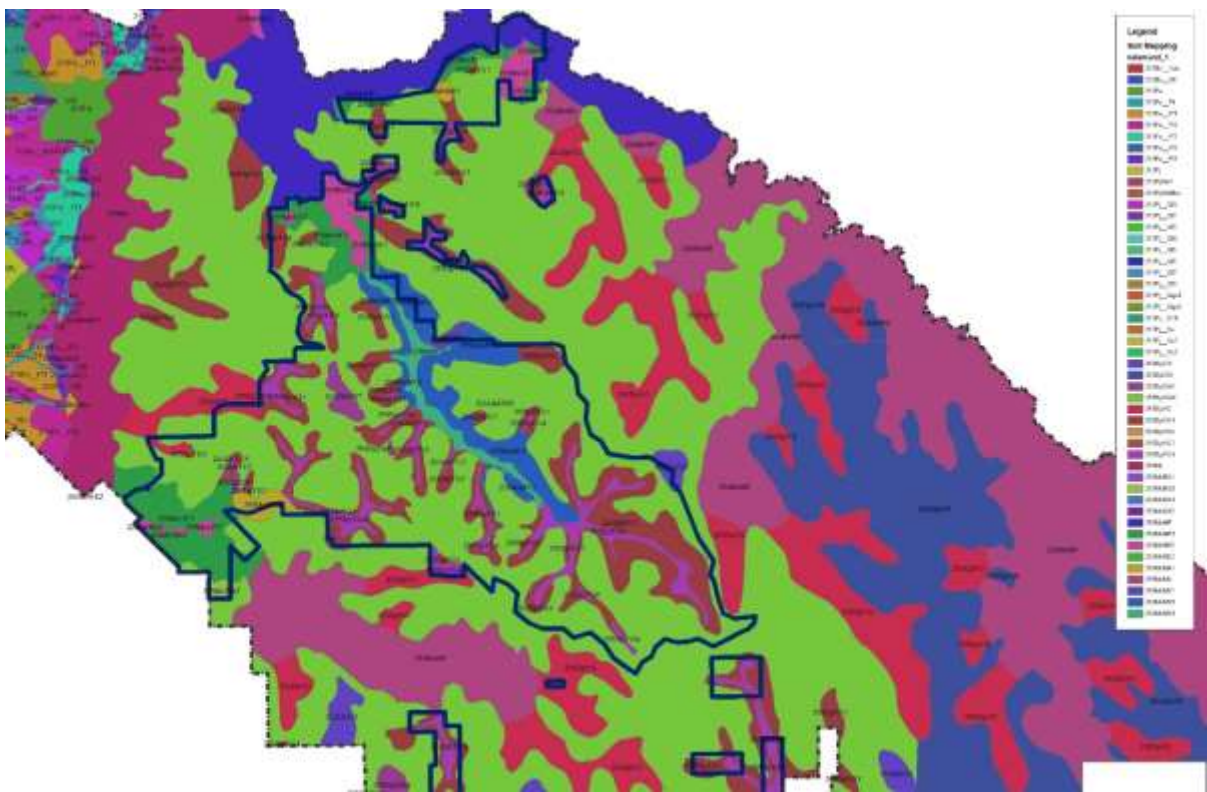


Figure 25: Soil Landscape Mapping. Source: DAFWA, prepared by the Shire of Kalamunda.

Table 4: Land Unit Descriptions (most common conditions)

LATERITIC UPLANDS. (Western Darling Range Zone; Darling Plateau System – 255Dp)	
DWELLINGUP. Gently undulating upland surface of the Darling Plateau.	
DW1	Crests and gently inclined terrain dominated by lateritic duricrust and very shallow gravely brownish loamy sands or gravely earthy sands. These areas are well drained.
DW2	Gently undulating terrain with well drained shallow to moderately deep gravely brownish sands, pale brown sands and earthy sands over duricrust.
YARRAGIL. Minor shallow valleys within the upland surface of the Darling Plateau.	
YG1	Gently to moderately inclined side-slopes with moderately well drained yellow duplex soils, and yellow and brown massive earths.
YG4	Valley floors with poorly drained mottled yellow duplex soils.
VALLEY SYSTEMS INCISED BELOW LATERITIC UPLANDS. (part Murray Valleys System – 255Mv)	

HELENA. Long (> 3 km) very deeply incised valleys with steep rocky slopes and some shallow red or yellow earths.	
HE1	Moderately steep to steep side-slopes and very narrow drainage floors with areas of many rock outcrop.
HE2	Moderately inclined side-slopes and lower slopes with few areas of rock outcrop.
MURRAY. Deeply incised valleys with red and yellow earths on slopes; narrow alluvial terraces.	
MY1	Moderately steep to steep side-slopes and very narrow valley floors with few to commonly occurring areas of rock outcrop.
MY2	Moderately inclined to moderately steep side-slopes and narrow valley floors with few areas of rock outcrop.
MY3	Gently to moderately inclined side-slopes and lower slopes with very few areas of rock outcrop.
MYARA. Short (1.5 to 3 km) moderately incised rocky valleys with variable, moderately well to well drained loamy surfaced duplex soils or gradational earths.	
MA1	Moderately steep to steep valley side-slopes and narrow valley floors.

Land Capability

The Concept and Methods

'Land capability' is a term used to express the ability of land to support a proposed form of land use or activity with minimal risk of degradation to its soil or water resources. Land capability assessment is a form of environmental impact assessment based on a consideration of the physical characteristics of the land and the requirements of a proposed form of land use.

The land assessment method is most recently described by Van Gool *et al* (2005) in 'Land Evaluation Standards for Land Resource Mapping: Guidelines for assessing land qualities and determining land capability in south-west Western Australia' which has been published in conjunction with DAFWA. The results of land capability assessment are usually expressed in terms of a five class system reflecting the severity of physical limitations to a proposed land use ranging from class 1 (very high capability land with no significant limitations) to class 5 (very low capability land with severe limitations).

Using the DAFWA's broad-scale soil-landscape mapping as a base, land capability assessments can assist regional or 'whole of Shire' land use planning and commonly focus on identifying and protecting areas of higher agricultural capability. At a property-specific level, and with more detailed survey and mapping of soil and landform conditions, land capability assessment is also used to assist planning

for intensive agricultural land uses as well as for rural-residential developments.

For agricultural land uses, productivity factors are considered in addition to those for environmental protection. In relation to irrigated forms of agriculture (including annual or perennial forms of horticulture) the availability of a water resource is an obvious key consideration. Water resource availability cannot however be directly reflected in the capability assessment. This is because capability ratings are based on a consideration of landform and soil factors only, and the availability of water (surface or below ground) for irrigation purposes is not intimately tied to a specific soil type or position in the landscape.

The magnitude of land use limitations will ultimately be reflected in development costs or environmental management requirements for land. Identification of limiting factors, such as the risk of erosion or waterlogging in specific areas enables an early response in the planning or agricultural development process in terms of modifications to the design or layout of a development, or the allocation of resources to specifically manage the issue.

Although capability assessment can be a valuable tool for land use planning and avoidance of land degradation, it is important to recognise that identification of areas as being capable of supporting a particular form of land use does not necessarily mean they are ultimately most suitable for that use. Other planning factors and environmental protection criteria need to be applied to determine land use suitability. In relation to the Study area, the other important planning factors to consider include:

- Availability of water for irrigation.
- Ability to accommodate buffers or manage potential conflict with adjacent land uses.
- Biodiversity values associated with any remnant vegetation.
- Management of fire risk.
- The importance of retaining and supporting orcharding within the Shire for its economic and aesthetic values.
- The effect of lot size on the practicalities of managing existing orchards, or attracting investment in alternative uses.

Capability Assessment Results

Land uses assessed as part of the Darling Range Land Capability Study, and relevant to the Hills Rural Study are:

- Perennial Horticulture – including irrigated orchards, vineyards or tree crops.
- Grazing – not-irrigated pasture primarily used for sheep, cattle or horses.
- Annual Horticulture – including vegetables or market gardening.

The assessment results for these land uses are shown in Appendix 5 – Land Capability Assessment – Class Ratings.

In relation to orcharding, the dominant form of intensive agriculture within the Study area, the capability ratings for perennial horticulture are most relevant. It is emphasised however that the ratings are based on consideration of soil and landform conditions only.

Within the lateritic uplands the results indicate conditions most conducive to orcharding occur within the deeper, relatively rock-free gravelly soils of Dwellingup map unit Dw2. Within the upland's weakly incised Yarragil valley landforms, the duplex soils and earths of side-slope map unit Yg1 have high capability, while the valley floor map unit Yg4 is rated as fair being slightly less capable due to the inherent risk of waterlogging and loss of fertiliser applied nutrients to watercourses. Within the deeper, more incised valley systems the gently to moderately inclined side-slopes of the Helena and Murray valley landform map units He2 and My3 are rated as high capability. Map unit My2 with slightly higher slope gradient, but still not steep, is rated as fair capability land.

Relationship to Existing Orchardng Areas

Figure 24 shows the extent of remaining orchards within the Area based on the Shire's interpretation of 2012 aerial photography. The total area depicted as orchards covers 559 ha and 95% of this occurs within land zoned 'Rural Agriculture' under the Scheme. It should be noted however that as the 'Rural Agriculture' zone covers 1529 ha within the Area, the remaining orchard areas (plantings) represent only 34.5% of the total area of this zone.

The 2012 figure of 559 ha compares to 588 ha of 'all fruits' reported within the Shire by the Australian Bureau of Statistics in 2006, and the 751 ha of orchards determined by the Shire in 1985). This illustrates a 22% decline or intensification of the orcharding industry within the hills area over the past 27 years.

Interestingly, a comparison between the location of remaining orchards in the 'Rural Agriculture' zone, and soil-landscape mapping described in Table 5 below reveals results consistent with the land capability assessment. Most of the remaining orchards are located within the higher capability Yg1 areas and to a lesser extent within the fair capability valley floor Yg4 areas. Figure 24 also shows the most extensive areas of remaining orchards are located within the localities of Pickering Brook and Carmel, and to a slightly lesser extent in Bickley. These localities are within the upper portions of their respective catchments where there is a greater occurrence of the higher capability land associated with the weakly incised Yarragil valley landform.

Table 5: Soil-landscape Map Units Under Cover

Soil-landscape map unit	Percentage of area under orchards
Yarragil- weakly incised valleys within upland plateau	
Yg1 - sideslopes	45 %
Yg4 – valley floor	34 %
Dwellingup – gently undulating upland plateau	
Dw2 - gravelly soils with no significant surface laterite	10 %
Murray - deeply incised valleys	
My2 – Moderate side-slopes	3 %
My3 – Gentle lower side-slopes and valley floor	6 %
Helena – very deeply incised valleys	
He2 – moderate side-slopes	1 %

Vegetation

Original Vegetation

The original native vegetation within the Study area has been described and mapped into broad-scale vegetation complexes by Heddle *et al* (1978) as part of the Darling System Study. The vegetation complexes are closely linked to the landforms and soils of the area and are very broadly described below. Further information on these vegetation complexes can be found within the Shire of Kalamunda Biodiversity Strategy.

Lateritic Uplands

- Dwellingup Complex: Open forest of jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*).
- Yarragil Complex: Open forest of jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*) on upper slopes with admixture of yarri or blackbutt (*Eucalyptus patens*) and bullich (*Eucalyptus megacarpa*) on valley floors.
- *Valleys below the lateritic uplands*
- Murray Complex: Vegetation ranges from open forest of jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*) on the slopes to woodland of wandoo (*Eucalyptus wandoo*) with flooded gum (*Eucalyptus rudis*) and with admixture of yarri or blackbutt (*Eucalyptus patens*) and bullich (*Eucalyptus megacarpa*) on valley floors.
- Helena Complex: Vegetation ranges from a mixture of open forest of jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*) and open woodland of wandoo (*Eucalyptus wandoo*) through heath and herbland to lichens on the granite rocks.

Remaining Vegetation

A large amount of the native vegetation in the Study area has been cleared to facilitate agricultural production, particularly the shallow weakly incised 'Yarragil' valleys within the upland surface of the Darling Plateau. Most of the remaining vegetation in the Study area occurs within reserves associated with protection of public water supplies and parks and recreation. Some remnant areas also occur on privately owned land zoned for rural purposes, including parts of the 'Rural Agriculture' zone, however, the potential for further clearing of this land is limited given public water supply protection requirements, and the vegetation and landscape retention objectives of the Scheme which relate to the area.

Water Resource Catchment Areas

The Study area is dissected by valleys associated with the Helena River, Bickley Brook, Yule Brook and Munday Brook (Victoria Reservoir) water catchments as visible in Figure 4. It is within these valleys that the remaining orchard industry is concentrated with water supplies for irrigation sourced largely from small private dams capturing surface water runoff and spring seepages. Anecdotal evidence from orchardists suggests that availability of water for irrigation is becoming more limited as a result of a generally drier climate.

Middle Helena Catchment

The largest valley system extending over the Area is associated with the middle catchment of the Helena River which drains in a general north-westerly direction and into the Helena Pumpback Dam. The Middle Helena catchment is an important source of water for public drinking water supply as well as for agricultural uses, and this has been the catalyst behind the preparation of the MHCA Strategy by the WAPC in 2010, and earlier designation as a proclaimed surface water catchment area for the purpose of protecting public water supplies.

Water from the Helena Pumpback Dam can be transferred, traditionally during winter via a pumpback pipeline to Lake CY O'Connor and, from there it can be pumped to the goldfields and agricultural areas. Lake CY O'Connor also supplies part of the Integrated Water Supply System. Raw water quality in the Helena Pumpback Dam is considered the most marginal of the jarrah forested catchments in the hills. It is only through blending and storage of the water in Lake CY O'Connor and subsequent treatment that an acceptable water quality for a public drinking water supply can be achieved.

In order to protect, and prevent any further deterioration of the quality of surface water runoff from the Middle Helena catchment into the Helena Pumpback Dam, almost all rural land within the Study area is designated by the DoW as P2 source protection areas. Under this designation, protection of the public water supply source is a high priority and land use is to be managed in accordance with the principle of risk minimisation although some development is allowed.

The effects of P2 water source designation are outlined through the DoW's WQPN 25 and within the

MHCA Strategy. Orchards are considered 'compatible - with conditions' within designated P2 areas. This requires Orchards to be a 'discretionary use' within the Town Planning Scheme and Council would be expected to consider the potential for use of best environmental and water management practices in order to meet water supply source protection objectives.

In relation to land zoned for rural purposes, including the Shire's 'Rural Agriculture' zone, the P2 designation also means the minimum possible lot size giving consideration to the need for water source protection is 4 ha. For areas appropriately zoned for rural living purposes (including the Shire's 'Special Rural' zone, the minimum possible lot size is 2 ha.

Climate

Climate is an important component of the Natural Environment. Climatic factors determine the length of the growing season and underpin currently established systems of farming and horticulture. The Study area has a Mediterranean type climate, with warm dry summers and mild wet winters. The hottest months are January and February and the coldest months are July and August. Rainfall generally occurs from May through to October. The average annual rainfall is 1000 mm/year near the Helena Pumpback Dam, and increases southwards to 1200 mm/year near the headwaters of Piesse Brook (WAPC 2010).

Despite the relatively high average annual rainfall, the evidence for a drying climate in south west Western Australia is widely documented (Gill 2004) and, as discussed earlier, some orchardists suggest that availability of water for irrigation is becoming more limited.

Temperature is also important, particularly for growing fruit and nut trees where a 'chilling' requirement is necessary. The chilling requirement is defined as the accumulation of hours below 7°C and this varies for different fruit varieties. Satisfying the chilling requirement will result in normal growth and bloom following a dormant or winter period. During extremely mild winters the chilling requirement may not be met and will result in uneven bloom and subsequently low yields of fruit.

Within the Study area winter minimum temperatures are higher on the plateau surface areas compared to those within the dissected valleys where orcharding is concentrated. Cold dense air falls to the lower level from the plateau surface and results in temperature inversions during winter months, which are responsible for winter fogs and causing microclimates. Frosts can occur from May to September, but are more common in July and August (King and Wells 1990).

Infrastructure

Utility Services

Public Transport

The Area is poorly serviced by public transport, being a single service limited to distributor roads, terminating at the Pickering Brook Primary School. Currently the service runs on weekdays only and limited to two morning departures and two evening arrivals.

Road network

The road network is limited to local roads under the care and control of the Shire of Kalamunda. Roads are of varying quality and capacity and include unsealed roads. Apart from the Pickering Brook Townsite Investigation Area, it is unlikely that any new roads will be developed in the Study area.

Electricity

Electricity service is available throughout the Study area.

Water

A reticulated water service is limited in the Study along distributor roads. The majority of the Study area is reliant on water tanks, bores or dams for water for potable and irrigation purposes.

Storm Water

Due to the size of the lot areas, off site stormwater disposal is not necessary and is not considered to be a constraint in the Study area.

Telephone and Internet Services

Telephone service is available throughout the Study area. Internet availability is variable throughout the area.

Community and Commercial

The Study area contains primary schools in Pickering Brook, Carmel and Bickley localities, however, contains limited active public open space, with the dominant facility being the Pickering Brook Sports Club. The Study area also contains a number of public halls and places of worship. Retail facilities are limited to the general store/roadhouse located on Pickering Brook Road/Canning Road, Pickering Brook.

There are no dedicated commercial or industrial precincts in the Study area. Commercial uses generally service the rural activities in the locality, such as cold stores and plant repair. The Study area also contains limited tourism uses, predominantly wineries with cellar door sales, restaurants and short term accommodation.

6. Case Studies and Agri-Tourism Literature

Swan Valley, WA

Swan Valley Land Use and Management Discussion Paper (September 2012)

The Swan Valley Land Use and Management Discussion Paper (the Paper) investigates the regulatory framework and governance provisions of the Swan Valley as well as its key land uses and activities. The Paper covers aspects such as: land use and activities, landscape assessment, land capabilities and capacity, economic underpinning, opportunities and constraints and an examination of decision making by the Swan Valley Planning Committee in this context.

The Swan Valley is an important regional attraction for Western Australia and the State's oldest wine region. It consists of approximately 7,070 ha and is a subject to the *Swan Valley Planning Act 1995*. A major review resulted in the Swan Valley Planning Legislation Amendment Act (the 'Act') in 2006. The Act has four general objectives:

- Encouragement of the traditional agricultural and other productive uses of the area that complement its rural character;
- Protection of the environment and the character of the area;
- Reduction of nutrient levels in the Swan River; and
- Promotion of tourism complementing the rural character of the Swan Valley Policy Area.

The Swan Valley Policy Area is divided into three planning areas:

- Area A is designated for residential lifestyle activities and provides land transition between conventional urban development and agricultural production area and has a minimum land area of 2 ha.
- Areas B and C are agricultural production and tourism areas with some variation in permissible land uses and both have a minimum land area of 4 ha.

While the minimum 4 ha subdivision policy is considered a good incentive to reduce the trend of converting the land into hobby farms, in itself, it is not a sufficient means of preservation and long term viability of agriculture in the area.

Key issues identified in the Paper include:

- Analysis of the lot sizes shows that lots less than 3 ha in size are less likely to have horticulture or viticulture present than those lots larger than 3 ha. Subdivision approval to the minimum size lots in all the areas are subject to the applications being consistent with the planning objectives as outlined in the Act. Generally, subdivision is to occur on land less suitable for agriculture;
- The buffer issues between agricultural and non-agricultural land uses are proposed to be resolved by the requirement for the buffer to be provided on the newly developed non-agricultural land;
- Conflict between existing agriculture and adjacent lifestyle and/or tourism uses as a major threat which might compromise long term viability of agriculture in the area;
- Sustainable water supply is another key factor limiting future agricultural production in the area. The Paper explores a number of options for the future provision of the water necessary for the agricultural production; and
- Analysis of economic performance shows that industry and land uses that traditionally define the Swan Valley's character often provide its proponents with the lowest economic return.

Considering that viticulture is at a heart of the authentic visitor experience in the region, facilitating economic success of new expanding interests while protecting productive agricultural base should be a major overarching challenge in the area. The Paper argues that agricultural land uses should be supported by State departments and incentivised on both State government and local government level.

It is clear that, in spite of the Swan Valley Planning Committee having been specially appointed to deal with specific planning and other issues in the Swan Valley Policy area, the lack of an economic vision for the future of the area is an issue that now needs to be addressed. The Paper therefore suggests the preparation of an economic development strategy, led by Swan Valley business interests, as a crucial step towards planning sustainable future for the Area.

The Paper continues to outline the necessary mechanisms to sustain the fragile balance between primary agricultural land uses and newly introduced commercial and tourism land uses in order to preserve the main attractor to the area, the rural agricultural ambience:

- Review and revise the regulatory and policy framework, as well as governance provisions, at both State and local level;
- Improve the coordination of State government agencies and utilities;
- Articulate and identify a community vision for the Swan Valley;
- Prepare an economic development strategy, led by local business interests;
- Carefully assess development applications, with consideration to landscape protection concerns, to ensure alignment with the Act objectives and revised regulatory framework, with enhanced consideration by decision makers during the period prior to substantive changes to the regulatory and policy framework during the interim period;

- Improve roads and movement framework;
- Form a strategic infrastructure plan, coordinated between State and local governments and improve the physical infrastructure;
- Allocate necessary water supply, especially for agricultural and tourism uses; and
- Update City of Swan Local Planning Scheme 17 and planning controls at the local level, which could include a new strategic plan, ensuring alignment with State provisions.

In conclusion:

- Substantial portions of the overall economic activity in the area should be underpinned by agri-business.
- Viticulture industry defines the heritage, ambience and the landscape of the area.
- Any intervention should be broader than addressing land use planning and revising regulatory framework and related governance provisions, it should also address matters affecting current and future viability of the Valley economy, especially water provision and increased support for agriculture.
- Most importantly, any proposed intervention should include whole of government response, including the DoW, DAFWA, DoP, Tourism WA, local government, businesses, and community.

Summary Comments

The Paper is a valuable resource in determining the way forward for the Area. The base industry in the Swan Valley, the agriculture, particularly viticulture, has been subsidised by the agri-tourism and general tourism over the period of 18 years. The Paper provides an excellent study of a location similar to the Study area and gives an insight into problems that such coexistence caused over an extended period of time.

The Paper outlines the necessary mechanisms to sustain the delicate balance between primary agricultural land uses and newly introduced commercial and tourism land uses in order to preserve the main attractor to the area, the rural agricultural ambience, in the face of increasing pressures from urbanisation. Any potential changes to the area should take this Paper into account in order to avoid some of the similar issues.

East Wanneroo, WA

In 1992 the WAPC's North-West Corridor Structure Plan and the City of Wanneroo's 2000 Interim Local Rural Strategy provided the planning framework for land use decision-making in the east Wanneroo area. Traditionally, East Wanneroo has been a major centre of local economic and

employment activities based around the agriculture and horticulture.

There are many direct and indirect benefits from horticulture and agriculture in the east Wanneroo area in the form of the provision of fresh food, income, employment, tourism, cultural identity, and contribution to State and national economies. The area is recognised as having high quality soils, favourable climatic conditions, low frost risk and well developed infrastructure with the advantageous proximity to the workforce and the markets. The area is characterised by a large number of small rural lots, ranging between 2 and 4 ha. Lots sizes progressively increase to the north.

The North-West Corridor Structure plan as well as the State and Local Government planning policies have been focused on controlling and limiting development and subdivision of rural land and promoting productive land uses while minimising conflict between incompatible land uses. This approach toward planning in the area was based on the assumption that there are few constraints to using groundwater and rural zoned land for rural, agricultural and horticultural uses. These resources have, however, been in decline over the last 30 years, more noticeably over the last 7 years. Landowners in east Wanneroo have, therefore, been seeking a resolution to the complex land use and water management issues which have arisen from climate change and reduce rainfall.

Although quality horticultural land in close proximity to urban populations is a limited resource, the need to review planning in the East Wanneroo area was recognised by the State Government and prompted by a number of factors such as; declining water levels, climate change, impacts on the groundwater dependent ecosystems, declining public and private water supply, changing agricultural economics, and community uncertainty as a result of all of the above. The process of the review involved a number of community consultations. The objective was to look at the solutions to the increasingly competing demands for groundwater, future land use, development and environmental protection.

Planning review in the East Wanneroo area was also considered necessary for social and economic reasons such as the small lot sizes, rural producers leaving the industry and the changing structure of the markets that favour large scale horticultural production for a number of reasons. Further to the above, urban development had been rapidly occurring on existing 'Urban' zoned land in East Wanneroo for some time, and there was increasing land use conflicts and pressures for further urbanisation of rural land.

The WAPC released the *Future of East Wanneroo – Land Use and Water Management in the Context of Network City* (the Future of East Wanneroo Paper) in August 2007. A key issues to address was the loss of important agricultural land, and in this regard, the future of East Wanneroo Paper supported the staged relocation of the agricultural industry to a new, well planned northern precinct which will provide security for the industry to still remain in the proximity of metropolitan area. The new agricultural area would have the unique opportunity to adopt world's best practice to provide

certainty for agricultural/horticultural uses with secure leasehold and water use rights.

At the same time, the Future of East Wanneroo Paper identified that the long term urban development in the south-east Wanneroo (current agricultural area) will provide a source of medium to long term residential land for the growing Perth metropolitan area. It was identified that the change from rural to future urban area needs to be managed in such way as to minimise the social and economic impacts of the gradual loss and change from the active agriculture/horticulture to urban land use. It was acknowledged by the State Government that urban land uses have fewer adverse impacts on the groundwater quality and quantity compared with the widespread abstraction of groundwater and use of fertilisers and chemicals by the existing horticultural activities in the area.

The *Future of East Wanneroo Paper* offers the following in relation to the development of the East Wanneroo region:

- A broad land use concept which provides a planning framework for future land use changes;
- Development will be dependent on the coordinated approach between all the stakeholders, state government agencies, local government, and landowners;
- A prerequisite for the future development is a consolidation of the fragmented land ownership in south-east Wanneroo and coordination between landowners, the state and local government regarding provision of social infrastructure to support residential development;
- Recommendations in relation to the new rural small lot subdivision may be initiated by the local government by means of local area structure plans and scheme amendments; and
- Consultation with the community has to be a continuing process and additional opportunities for public comment need to be provided at each of the steps in the strategic planning, scheme amendment, structure planning and the development process.

In summary, the paper identifies that a whole of government approach as a vital component of the success of the proposed land use concept. It identifies that the further investigation will need to be done in the following areas:

- The value of food production in close proximity to Perth metropolitan area and economic and market issues of the agricultural/horticultural sector;
- Feasibility study into most suitable location for a new agricultural precinct;
- Infrastructure capital costs and how to fund them;
- Environmental issues and public health considerations – potential downstream contamination to public water courses; and
- Investigation into public perception, education and acceptance of the use of recycled water for growing edible products.

In 2011, the WAPC issued the *East Wanneroo Structure Plan* which is a strategic level document

identifying potential areas for residential, rural settlement and rural land in the future. The Structure Plan also provides an overview of the planning framework which would need to be implemented prior to subdivision and development being possible. Although the Structure Plan does not resolve complex issues such as the funding of infrastructure provisions and the preservation of wetland systems, it has provided the City of Wanneroo and the community with a level of commitment needed to pursue planning for the area which was not provided in the previous *Future of East Wanneroo Paper*. Technical investigations and local structure planning is now underway for the area in accordance with the Structure Plan.

Summary Comments

The development of the East Wanneroo area has been made possible by a whole of government approach and it demonstrates one way of dealing with the pressures on rural land. The rural areas of East Wanneroo will ultimately be rezoned to rural settlement, residential, industrial and environmental conservation areas and will effectively form a buffer between the urban sprawl of the metropolitan area and future, large scale agricultural development further to the North. It is not considered the urbanisation of the Study area in a similar manner will be possible due to a lack of coordinated government effort, however, the case study is relevant as it highlights the extent of strategic level planning necessary to provide certainty regarding the future of an area, and which a local government and the community requires in order to progress and fund detailed planning and development of an area.

Leeuwin – Naturaliste Region, WA

Leeuwin-Naturaliste Ridge Statement of Planning Policy 6.1

The purpose of *Statement of Planning Policy 6.1* (SPP 6.1) is to provide the strategic planning framework for the policy area for the next 30 years by providing greater vision, guidance and certainty of land use. The policy contains the following objectives which are relevant to this Study:

- Conserve and enhance the special benefits arising from landscape elements that form the fabric of the region;
- Protect agricultural land for its economic, landscape, tourism and social values;
- Encourage a mix of compatible land uses while separating conflicting land uses; and
- Facilitate a robust, diverse and sustainable economy.

The policy facilitates the protection of agricultural land through the control of subdivision and non-agricultural land uses and development. There is a general presumption against the subdivision of agricultural land for non-agricultural purposes, and where subdivision does occur it must not detract

from the long term viability of the land and provide an opportunity to diversity or intensify the agricultural use of land.

The policy is unique as it acknowledges that the combination of viticulture and high rural amenity results in the area being extremely popular for tourism. The Policy outlines that low-impact tourist development will be considered in rural locations where the development will not adversely affect the character of the surrounding area, comprises only buildings or structures which are small in scale and unobtrusive, is incidental or complementary to the agricultural use.

The policy also addresses the issues of sustainable development, conservation and land and resource management. SPP 6.1 offers controlled additional subdivision and development rights in exchange for conservation covenants and zoning. SPP 6.1 relates to two specifically determined areas and allow for additional subdivision in clustered form (of one additional lot or one additional lot for every 20 ha for properties larger than 40 ha) or for a low impact tourist development, subject to no detrimental impacts on existing remnant vegetation, absolute caveat, and a number of other conditions.

Planning for Agri-tourism

As a popular agri-tourism region, the Shire of Augusta-Margaret River Town Planning Scheme has planned specifically for agri-tourism by incorporated specific tourism related zones and land uses in the Town Planning Scheme. These zones and land uses have been informed by SPP 6.1, and generally, the Scheme favours agricultural land uses in all agricultural zones. Notwithstanding this, the Town Planning Scheme has a range of land uses which relate to agri-tourism such as 'Cellar Door Sales' and 'Rural Stall'.

The Shire of Augusta-Margaret River has also prepared a local planning policy to guide the assessment of 'Cellar Door Sales' due to the high demand for cellar door land uses in areas which are intended primarily for agricultural production. Given that this use has the potential to conflict with existing more traditional agricultural uses, the policy restricts the development of cellar door facilities to certain circumstances ensuring that agriculture remains the primary use of the area. The policy contains the following objectives:

- To ensure that all Cellar Door Sales within the Priority and General Agriculture Zones are located on roads of sufficient standard to cater for the expected traffic volumes.
- To ensure that Cellar Door Sales established on Priority and General Agriculture zoned land are designed to be in keeping with the rural character and amenity of the area.
- To ensure that cellar door sales establishments are located only on properties zoned Priority and General Agriculture where there is an existing associated vineyard and/or winery.

Incentives Strategy for Conservation of Private Land within the Shire of Augusta–Margaret River

The Augusta-Margaret River area is facing numerous threats to biodiversity, including:

- Development pressures and increasing fragmentation of land;
- Government policy and economic disincentives;
- Lack of knowledge, understanding and awareness of the natural environment;
- Clearing of natural vegetation without appropriate approvals and inappropriate resourcing;
- Threats to management and ongoing viability of the areas from weeds;
- Feral animals and kangaroos;
- Vegetation clearing and habitat fragmentation;
- Changes in water availability;
- Erosion;
- Inappropriate fire regimes;
- Diseases; and
- Inadequate understanding of the benefits that biodiversity provides.

In response to biodiversity issues in the area, the Shire Augusta-Margaret River engaged a consultant to prepare the *Incentives Strategy* to provide opportunities for the increased protection and management of natural areas on privately managed land and to encourage practical conservation actions on land with high biodiversity values.

Community consultation undertaken by the consultant indicated that lack of time and money are major constraints to landholders who currently do not carry out conservation activities on their properties, and furthermore, the technical advice that the Shire was already giving out was better received by those already undertaking conservation activities on their properties. This indicated that a combination approach was necessary if the Shire wanted to target a wider range of landholders. Feedback from government stakeholders indicated that while they provide general support for biodiversity conservation initiatives, they do not have resources to conduct the background work necessary.

Given this information, the Strategy incorporates the following types of incentives for conservation efforts on private land:

- Stewardship program - This program involves the provision of technical advice, support to landholders by assisting them with the management of natural areas on their properties. This incentive should focus on landholders whose properties contain high biodiversity values and all the landholders who are enthusiastic about conservation regardless of the biodiversity

- value;
- Grants and subsidies program - The grants and subsidies program involves the provision of direct funding to support on-ground management activities to assist landholders to achieve better conservation outcomes. The program has a capacity to assist landholders who are genuinely interested in biodiversity conservation who might not be eligible for State or federal grants;
 - Rate rebates - The rate rebate incentive involves the reduction or discount on the normal Council rates in return for the landholder undertaking conservation activities on the property. It is usually associated with a voluntary management agreement, conservation covenant or rezoning of the property to an appropriate conservation zone, which is required to obtain a certain level of reassurance that the natural area will be appropriately managed;
 - Subdivision incentives - This incentive involves the provision of additional subdivision rights in return for conservation of certain areas. This incentive is provided to lots with particularly high biodiversity values. In general, a better conservation outcome is likely to be achieved if the area of native vegetation that is subdivided is larger in size and retained on one lot. The area to be subdivided is required to be rezoned to the 'Natural Area Protection' zone and a conservation covenant placed against the title; and
 - Developer incentives - For areas which have been identified as having high conservation value, a number of incentives can be offered to developers where they conduct activities which have positive biodiversity outcomes.

The provision of the incentives for biodiversity conservation demonstrates the Shire's commitment to the biodiversity conservation and acknowledges the efforts of private landholders to manage and protect natural environment. The Strategy identifies that the Shire will only provide incentives to the landowners who conduct the field work in order to verify that the natural area on their property complies with the biodiversity criteria and who will enter into a Shire approved management agreement. The target of the Strategy is an uptake of at least 5-10% of the eligible properties for the rate rebate and subdivision incentive by the year 2020.

The incentives Strategy is partially implemented through the Shire of Augusta-Margaret River Local Planning Policy 16 - Subdivision for Conservation Policy. This policy provides guidance for the recommendations of Council to the WAPC on subdivision applications where the purpose of subdivision is to facilitate the conservation of flora and fauna value. The Policy applies to rural land within the 'Priority Agriculture' and 'General Agriculture' zones of the Shire's Local Planning Scheme No. 1. The policy recognises a general presumption against the subdivision of rural land for non-agricultural purposes in accordance with SPP 6.1 and the *Incentives Strategy* and encourages voluntary conservation and protection of natural areas on private land through an incentives program. The Policy allows for one additional lot on each agricultural lot subject to specified criteria.

Summary Comments

The Shire of Augusta-Margaret River sets examples as to how subdivision and the development of agri-tourism can be dealt with strategically, to ensure flexibility without compromising the natural environment. Furthermore, how alternative methods such as incentives can be used to facilitate conservation.

Hawkesbury Harvest, NSW

Hawkesbury Harvest is located within the Greater Western Sydney area and is made up by three local government areas. The area is known as Sydney's 'food bowl' with 20% of the total vegetable production for New South Wales. Similar to the Perth Hill's region, a large proportion of the land is National Parks and untouched land (60%) or rural holdings (20%), and falls within a water catchment area (Hawkesbury Catchment). Agriculture is one of the primary economic drivers within the Hawkesbury area. Similar to the Shire, Hawkesbury agricultural area is on the fringe of urbanisation and sprawl from Sydney urban area. This has led to some farmers expecting conversion of land from rural to urban and increase of land value associated with it. This has left a number of farmers simply holding on to their land for what they see as a 'nest egg' for the future.

In March 2000 a community based association called Hawkesbury Harvest Inc. was devised to develop a Farm Gate Trail and a grower directory. Hawkesbury Harvest's goal was to improve the economic viability and sustainability of local agriculture. The trail was initiated to satisfy the aims of Healthy Cities and Sustainable Agriculture by introducing tourists to the area who can access the farms and their produce by facilitating the direct sale of these agricultural and value added products to the tourists. The trail also encouraged a mix of both tourism operators and farm operators to the area which facilitated 'holistic rural development'.

The trail is comprised of a number of different activities characterised as 'Taste', 'Buy' and 'Learn' experiences. The common theme of the trail is 'The Country Experience on the Doorstep of Sydney' is characterised by promoting local food and maintaining agriculture in the area. The farm gate attractions are complimented by a number of additional uses including galleries, café's, restaurants and accommodation. The aims of the trail are to create jobs in the area, increase revenue for farmers, facilitate conservation of agriculture and facilitate change in attitudes to farming practices within the community including increase in diversification and sustainable development.

Stage one established a grower directory which facilitated access and visitation directly to farms and producers. This network also allowed for the members to pool their resources and share in the costs and benefits of marketing the region. The network also allowed producers in the area to value add to their raw produce which in turn strengthens local economies through the increasing the interrelationships between agricultural production, the tourism industry and the commercial sector in the local community.

Hawkesbury Harvest received financial support from local and Federal Government. Further support to the project was provided through the provision of a project director over two years by the Hawkesbury City Council whose role was to promote awareness within the community and coordinate membership. This was achieved through a number of mechanisms including the establishment of a website with an interactive farm gate trail map and members/operators contact information, a trail member's newsletter, promotion of the trail through the media and training workshops for members.

In 2002 the second stage of development of the trail was initiated which was characterised by the business development through regional marketing and branding of the trail, creating farmer's markets, and the development of boutique agriculture. The aim of this stage was to facilitate and encourage economic independence for the trail. This approach to development of the trail was very successful with many farms reporting improved situations within the first year of operation including an increase in visitors. This facilitated the increase in employment and hours worked within family businesses. The trail also raised the awareness of the region as a tourism location. Given that the trail was deemed a success, the majority of the farms did not provide dedicated tourism facilities such as farm-stays.

The trail has facilitated the development of a number of secondary tourism uses such as tours and arts and crafts galleries which have enhanced the tourism experiences in the area. For some producers the trail has improved their situation by expanding their business into tourism. Given this, for some of these producers, the increase in tourism has meant that the requirements of catering for tourists have outweighed the ease of selling their produce via traditional markets. New skills such as business planning, marketing of tourism products, hospitality management and customer service skills have are required to support the tourism use which can be costly in time and money. This has meant that some producers have departed from the trail, which in turn reduces the appeal of the trail itself. Benefits of the trail to other members also decrease with the reduction of knowledge sharing and food products. The trail also has a secondary effect with products originally made available to the community, promoting sustainability, now diverted to gourmet food markets reducing the effectiveness of the trail.

Overall the trail was a success in combating the issues faced by farmers who invested enough resources into the venture. The trail has played a role in revitalising the community's interest in agriculture and their heritage, brought about new opportunities for production in the area and helped balance global forces through diversification. It has also provided incentives to producers to better manage the land as it has become an asset to them for more than just production purposes. This is due to the rural character of the area playing a large role in the identity of the area and hence the marketing of the area for tourism purposes. However this has been highly dependent on the community's attitudes towards tourism in the area, flexibility of planning and political barriers.

Summary Comments

This case study is relevant to the Study area as it discusses the potential options to supplement income from agriculture properties. For agri-tourism to be successful within the area, there must be a holistic approach for both land use planning, but also governance of the area. The study notes that agri-tourism allows for diversification of crop production which could assist in minimising risk in production. For the area to retain its tourism appeal, it is important to ensure that the proposed agri-tourism uses relate back to the land. This case study also highlights that agri-tourism is only effective in supplementing income from agriculture if enough resources are invested into agri-tourism use.

City of Armadale, WA

City of Armadale Rural Strategy (1999)

The rural areas of the City of Armadale are located in the hills, slopes, and valleys of the Darling Scarp and Ranges. Much of the Darling Scarp is of high scenic landscape quality and some of the valleys and slopes contain prime agricultural land and significant areas of remnant vegetation. The rural areas of the Darling Scarp are used for horticulture, especially fruit production, grazing on the lower slopes and rural residential lots. The low lying areas contain both flat and basin wetlands, areas of remnant vegetation and several Bush Forever sites. The coastal plains are used mainly for grazing, horticulture and poultry farms.

The *City of Armadale Rural Strategy 1999* sets out key policy objectives, land use management controls and guidelines for subdivision, development and landscape protection for each of the rural areas throughout the City. The overall aims of the Strategy are consistent with the objectives of SPP 2.5 and are as follows:

- Protect productive agricultural areas, particularly that which is of high quality and strategic significance in the State, regional or local context.
- Provide opportunities for planned, contained and sustainable settlement in locations with access to appropriate community services and infrastructure.
- Assist in the conservation, restoration and wise use of natural resources including energy, water, land, flora, fauna, minerals and basic raw materials.

The Strategy also identifies the need for proper management of a number of key environmental issues to sustain the use of productive rural areas in the long term, these include:

- The protection of public water supply resources;
- The protection of wetlands and nutrient impacts on water bodies;
- Land degradation and clearing;
- Bushfires;
- Landscape and visual resource protection;

- Agricultural protection;
- Domestic on-site effluent disposal systems; and
- Tourism development.

The numbers of City residents employed in agriculture, forestry, and fishing has declined over the past decade from 485 in 1991 to 413 in 2001 according to census data. However, agriculture remains of significance to the City's economy particularly due to fruit production, nurseries, eggs, and poultry. In 1996/97 the gross value of agricultural production in the City was estimated to be nearly \$14 million. At that time, there were a total of 102 farms, covering an area of 2,000 hectares.

The City's overall aim for the rural areas is to adopt a responsible resource management approach in the decision making and to encourage landowners to undertake the same in the use of their land. The objectives of the Strategy have been implemented through provisions in the Town Planning Scheme No. 4 (TPS 4), which includes the following objective for rural areas: *"to conserve and enhance the natural environment attributes of the district by incorporating environmental principles into public and private decision making"*.

Other TPS 4 provisions include building setbacks from water courses and wetlands, controls on building site coverage to preserve the rural amenity of low density rural residential areas, restrictions on site clearing to minimise detrimental effects on the character and resource value of the area, stock control, water supply requirements, and provisions which specify buffer distances to minimise the effect on adjacent land uses of any potential off-site impacts such as gas emission, noise or odour from rural and associated activities.

A key feature of the Scheme is the application of Special Control Areas to address environmental and land development coordination issues. These controls are additional to those applied in each zones and relate to the following matters:

- Flood prone land – to highlight the potential for flooding in relevant areas and provide a basis for minimising loss of property and life from floods;
- Public Drinking Water Resource Protection Areas – to highlight the importance of the City's water resources and to provide a mechanism that minimises the risk of pollution and maximises water conservation;
- Special Watershed Catchments and Wetland Protection Areas – to recognise the sensitivity and need for careful planning to protect the beneficial uses of prioritised catchments and wetlands;
- Landscape and Bushland Protection Areas – to highlight the importance of these areas and maximise opportunities for protection;
- Prime Agricultural Land Protection Areas – to provide a basis for on-going and sustainable use of these areas for a variety of productive agricultural purposes;

- Bushfire Protection Areas – to highlight areas at risk and to introduce relevant risk management considerations in approval processes; and
- Environmental Buffer Areas – to highlight the potential for reduced environmental quality in the vicinity of certain land uses and to implement measure to minimise adverse off site impacts.

It is intended that these provisions will assist in managing pressures that arise from the rural-urban interface and provide a suitable framework to foster productive rural activities.

Summary Comments

Although rural areas of the City of Armadale have been subject to change and the number of people employed in agriculture in the area has declined, the area is considered to be a priority agriculture area and is likely to be retained as such in the near future. The majority of planning documents related to the area prioritise agricultural and environmental protection, and this regard, the area is comparable to the Study area. Given that there is less pressure for rural areas in the City of Armadale to be urbanised, there has not been any further investigation development of the land which may be of benefit to this Study.

Shires of Campaspe, Greater Shepparton and Moira, Victoria

The City of Greater Shepparton and the Shires of Campaspe and Moira are located in Victoria, approximately 3 hours north of Melbourne. This region produces 45% of Australia's stone fruit crop, 25% of the nation's milk production, 90% of the national deciduous canned fruit production and 90% of the national tomato processing production. In recent years, there has been increasing pressure to allow for the development of the region, and more flexibility of lot sizes. In response, a Regional Land Use Strategy has been prepared, the recommendations of which have been integrated into the planning scheme for the area.

Regional Land Use Strategy

The *Regional Land Use Strategy* categorises the region into five areas based on the dominant land uses and type of agriculture occurring in the area as follows:

- **Consolidation Areas** are where productive agriculture is the predominant land use. Further investment in agriculture is likely in these areas, but the relatively smaller fragmented landownership and the older irrigation infrastructure is likely to make these areas far less attractive for large scale agricultural investment.

- **Niche Areas** are areas identified to still have productive agriculture as a significant land use however properties within the area are transitioning away agricultural land uses. Due to this transition, investment in productive agriculture in the area is increasingly unlikely as the cost of purchasing land far exceeds a productive return from the land and the amenity impacts of further agricultural uses limit opportunities. Given this, investment in agriculture would likely to involve niche, specialist, or value adding products on the existing lot. Whilst there is a high market demand for rural living in this area, it is important to note that these areas are still productive farming areas and should not be classified as rural living areas.
- **Rural Living** areas are identified as highly fragmented ownerships where properties are often too small to support independently viable agricultural use other than at a hobby scale. These areas are considered to be rural living or rural residential areas regardless of their formal zoning under the current planning schemes.
- **Rural Activity** areas are where agricultural land uses are present that provide a setting for a variety of tourist and recreational developments located in the area. Generally, these are relatively small areas and are often nearby to urban areas and major tourist and recreational areas like rivers and forests.
- **Rural Conservation** areas are identified as having significant conservation values on private land that are under considerable pressure through land clearing and fragmentation as a result of land use and development. These areas provide opportunities for limited residential activity and some low intensity agriculture activity. Principally, these areas long term future is concerned with maintaining and enhancing areas of bio diversity.

Planning Scheme Provisions

The Planning Scheme for the region utilises a performance based approach when assessing applications for subdivision in each of the five rural areas outlined in the Rural Land Use Strategy, although minimum lot sizes are recommended.

The Planning Scheme recognises that compromising the agricultural potential of the region through inappropriate subdivision or conversion of individual parcels to residential use is a short sighted response that would be at the long term expense of the farming potential of the area, the ongoing viability of remaining farmers and the regional economy. Land should be developed in such a way that its agricultural potential is only reduced if there are limited or no agricultural prospects remaining.

Accordingly, all subdivision proposals in the area are required to be supported by justification which

demonstrates why it is necessary for further lots to be created in the area. This approach is contrary to common controls over subdivision whereby lot size often bears no relationship to the intended land use and development of the land, and may be based on an arbitrary lot size.

In several situations, this performance based approach has led to excisions in the Consolidation area where this may assist the development of farming enterprises. However, the excisions are less likely to occur in Niche areas because the land is already extensively fragmented with supporting houses. In all three farming zones, applications for excisions will be required to demonstrate how an excision will positively contribute to the strategic agricultural future of the subject property. In contrast, this performance based approach has meant that very little subdivision is able to occur in Niche areas where land is already fragmented.

Summary Comments

The City of Greater Shepparton and the Shires of Campaspe and Moira compose a major agriculture producing region in Australia. It is important to note that this region is significantly larger in terms of size and agricultural output, as well as experiences different challenges facing production compared to the Study area.

Notwithstanding this, the performance based approach to subdivision has allowed increased flexibility for landowners, while still prioritising the protection of viable agricultural land. Such a system would appear to be an excellent approach for the Study area, given the necessity for to provide landowners with more flexibility, while protecting viable agricultural land, however, the following issues are identified that might prove challenging:

- Although many land owners believe that agriculture is no longer viable in the Study area, it may not be possible to adequately demonstrate when proposing subdivision because the land is still considered to be productive in nature;
- The WAPC take a precautionary approach to subdivision and prefer to protect the potential of the land to be used for agriculture by maintaining large lot sizes, regardless of the actual use of the land; and
- Landowners in the Study area primarily wish to subdivide for social and financial reasons, not due to environmental changes preventing the land from being used for agriculture.

Agri-Tourism Literature

Agri-tourism does not have a clear definition. The term can be used to describe almost any activity undertaken when a person visits an agricultural setting, farm or undertakes activities related to the agricultural production on a farm for leisure purposes (Tew and Barbieri 2012; Fleischer and Tchetchik 2005). Given this, agri-tourism is usually regarded as a use being undertaken on a working farm which adds value or generates income to the farm (Tew & Barbieri 2012; Barbieri and Mahoney 2009; Ollenburg and Buckley 2007; Phillip, Hunter, and Blackstock 2010).

In addition to the above, agri-tourism can also include recreational 'pick your own' harvest, daily visits and tours, nature and wildlife observation, hunting and other outdoor activities undertaken in a production area (Tew and Barbieri 2012; Barbieri, Mahoney, and Butler 2008; Caballé 1999; Ilbery 1991). It is also argued by some that agri-tourism can include lodging and accommodation, food and beverage services, educational activities, direct sales of farm products, and other special events undertaken within an agricultural area (Barbieri, Mahoney, and Butler 2008; Fleischer and Tchetchik 2005; Ilbery 1991; McGehee 2007; Tew and Barbieri 2012), while others believe that these uses are excluded (Ollenburg and Buckley 2007).

It is noted by Tew and Barbieri (2012) that there is no one definition or classification system for the characteristic for agri-tourism. However, Phillip, Hunter and Blackstock (2010) have suggested three criteria which must be met for a use to be defined as agri-tourism:

- Whether the level of contact of the tourist with the agricultural activity is passive, direct or indirect.
- If the use is located on a working farm.
- If the experience of the tourist is staged or authentic.

Phillip, Hunter and Blackstock (2010) also argue that the abovementioned criteria would then be used to define five levels of agri-tourism as follows:

- Non-working farm agri-tourism in which a use that is not related to agriculture (such as chalets) on a former agricultural lot;
- A working farm in which a non-agricultural use (e.g. chalet) is located on a working agricultural lot;
- A working farm in which indirect contact is made to agricultural uses by those visiting the agricultural lot such as serving meals which is made from produce from the lot;
- A working farm where direct contact is made by the visitor such as viewing activities undertaken on the agricultural lot; and
- A working farm where direct contact is made by visitors by helping out with agricultural

activities undertaken on the lot.

When there are a number of struggling farms and land holdings within an area it is suggested that there is a need to diversify offerings through on-farm initiatives such as agri-tourism and specialty crops appealing to niche markets (Barbieri & Valdivia 2010; Tew and Barbieri 2012). In times of poor harvest, economic decline, and reduced prices agri-tourism has been shown to provide an option for farmers to supplement their income, as in most cases agri-tourism is a supplementary income to the main production undertaken on the land and can be used as a risk minimiser (Fisher 2006; McGehee 2007; Nickerson, Black, and McCool 2001; Tew and Barbieri 2012).

Agri-tourism is suggested to have a number of potential benefits to farmers, the agricultural community it is located within and visitors to the area (Tew and Barbieri 2012). However it is suggested that there is a limited understanding of the benefits due to a complex set of economic and non-economic aims associated with development (Barbieri and Mahoney 2009; Nickerson, Black, and McCool 2001; Ollenburg and Buckley 2007; Tew and Barbieri 2012). Agri-tourism can facilitate the development of employment and industry in the area. This can include the development of secondary industries such as restaurants and shops bringing 'new money' into the area, creation of additional employment in the area and stimulation of existing businesses in the local community (Tew and Barbieri 2012; Schneider 1993; Barbieri and Mahoney 2009; Saxena et al. 2007; Sharpley 2007; Cohen 1984). This in turn can help diversify and stabilise the local economies, improve the economic situation in these areas, as well as assisting family farms to remain in business (Ilbery 1991; Nickerson, Black, and McCool 2001; Ollenburg and Buckley 2007; Schneider 1993; Wilson 2008).

There are a number of indicators that can be used to measure how valuable agri-tourism is on an individual farm. These include net income and overall revenue of the farm and reduction of dependence on agricultural production (Barbieri and Mahoney 2009; Nickerson, Black, and McCool 2001; Tew and Barbieri 2012). Agri-tourism can also facilitate maximisation of productivity through the use of resources currently available for recreational use, which do not require a dramatic change in the farms production (Tew and Barbieri 2012; Fisher 2006; Ilbery 1991; Nickerson, Black, and McCool 2001; Fleischer and Tchetchik 2005; Ollenburg and Buckley 2007). In the case of family businesses, the implementation of agri-tourism may also provide additional employment for family members and retain family members in the locality (Fleischer and Tchetchik 2005; Ollenburg and Buckley 2007; Schneider 1993; Tew and Barbieri 2012).

It is suggested that agri-tourism may also facilitate non-economic benefits for a region (Tew and Barbieri 2012). Some non-economic benefits include preservation of local customs, heritage and culture and preserving the lifestyle of the area (Everett and Aitchison 2008; Ollenburg and Buckley 2007; Tew and Barbieri 2012; Turnock 2002). Agri-tourism may facilitate a cultural exchange, as

visitors of the area express their appreciation of the area, local attitudes towards to area may improve, bringing about a shift in local culture (Schneider 1993). Therefore, it is speculated that agri-tourism may facilitate community pride and creation of services that may not always have been supported in the area (Schneider 1993).

While there are a number of suggested advantages to the development of Agri-tourism in local farming communities, there are also a number of disadvantages that could occur. For example, economic benefits from agri-tourism may be highly dependent on what stage of agri-tourism development is in on local farms and whether or not the industry is isolated or if there are other attractions located nearby (Fisher 2006; Fleischer and Tchetchik 2005; Nickerson, Black, and McCool 2001; Saxena et al. 2007; Tew and Barbieri 2012). The development of tourism in the area can also place demand on public utilities and infrastructure such as water supply, waste disposal, electricity power, emergency services and road ways (Gunn 1988; Schneider 1993).

Agri-tourism may also have a number of negative impacts on the employment profile of an area. Agri-tourism can lead to the underemployment and unemployment of people within the area due to the seasonal nature of both tourism and agriculture (Gunn 1988; Schneider 1993). There is also a greater requirement for employees to absorb more costs of living than they would for a traditional agricultural job (Schneider 1993). Agri-tourism has been known to inflate property values, the price of goods and services and can put strain on both the employees and the local farms (Schneider 1993).

Agri-tourism can also create a number of social disadvantages within a local community. These can include crowding, congestion, pollution, and undesirable behaviour (Mathieson and Wall 1982; Schneider 1993). An influx of tourists and employees from outside the local community can also lead to a clash of cultures and ideals (Schneider 1993). The employment of non-residents in senior positions (e.g. managerial within the community, local government etc.) may also bring a clash of ideas and social unrest (Mathieson and Wall 1982; Schneider 1993).

Finally, agri-tourism can lead to a number of environmental disadvantages within the local community such as increase in litter, pollution, noise and competition of natural resources (Schneider 1993). While it was stated that tourism can serve to foster conservation, it can also lead to the opposite, with more development in the area (Schneider 1993). This can also lead to a loss of historic and natural sites through the degradation of the integrity of these areas (Gunn 1988; Schneider 1993). Finally tourism can also lead to the development of important agricultural land by converting the use of land from agricultural uses to recreation purposes (Bélisle 1983; Schneider 1993).

7. THE DRAFT HILLS RURAL STUDY

Economic Development Discussion Paper (EDDP)

The first draft of the Study was presented to Council in June 2013. Instead of adopting the draft Study for the purpose of advertising at this time, Council resolved to broaden the scope of the Study, and one key requirement was for the preparation of the EDDP for which the Shire engaged an economic development consultant.

At the time the EDDP was prepared, the Shire had already drafted several potential options relating to further subdivision of the Study area that would ultimately be incorporated into the recommendations of the draft Study (refer draft Recommendation 3 below). Following an extensive analysis of economic trends and social changes relevant to the Study area, the EDDP addressed the different options relating to subdividing the Study area.

In short, the EDDP concluded that subdivision of the Study area may lead to short term financial relief for landowners, however, will ultimately lead to a decline in the productivity and agricultural viability of land in the Study area. As an alternative to further subdivision, the EDDP recommended 17 different actions which could be undertaken, these actions largely related to the revitalisation of the agriculture/horticulture industry of the Study area. These 17 actions, along with a full copy of the EDDP are contained in Appendix 2.

Opportunities and Constraints

The draft Study provided a discussion of opportunities and constraints for the Study area based on the background research and data collection which had been undertaken.

Constraints

The constraints facing the Study area were primarily based on the comments of landowners in the 2012 resident's survey and from community workshops, a review of planning controls relating to the area, and information contained in the EDDP. The constraints were categorised as follows:

Economic issues

- Export markets for the Study area's produce have declined due to competition from countries such as China and South America.
- The cost of labour is increasing, previously many orchards were primarily operated by

- extended family.
- Growers are anxious about future economic markets, and a general decline in the industry is occurring as larger competitors dominate the market. Furthermore, large supermarkets do not differentiate between the quality of the fruit grown and its origin.
 - The start-up costs for new production is prohibitive, especially as property prices increase.

Social changes:

- Many growers are second or third generation growers. Increasingly the younger generations of growing families are becoming educated and employed in other sectors. This causes a breakdown in the traditional operation of orchards in the area as other labour must be found.
- Remaining orchardists are aging and not being replaced by younger members of the family;
- Large landholdings are priced prohibitively for young people wanting to start a new business.
- The strong sense of community in the area does not seem to extend to cooperative business practises.

Environmental issues:

- The area is bushfire prone and any further subdivision would have to be designed in accordance with bushfire regulations which may be very difficult.
- Water availability in the area is declining, and the Australian Bureau of Meteorology anticipates that this trend will continue.
- A significant portion of the Study area is located within the Middle Helena drinking water catchment which must be protected from contamination and pollution. Any development within P1 and P2 areas must be consistent with relevant planning documents such as the MHCA Strategy and WQPN 25.

Opportunities

The key opportunities for the Study area were developed following consideration of the comments of land owners, examples taken from case study areas, a review of agri-tourism literature and the views of the State Government toward this, and the actions identified in the EDDP. The opportunities for the area were categorised as follows:

Agri-tourism

- Currently the Scheme is lacking a number of agri-tourism related land uses such as 'Cellar Door', and 'Art and Craft Sale' which are included in the town planning schemes for comparable areas. A review of the Scheme to introduce these land uses would provide more certainty for potential proponents for this type of agri-tourism land use;
- Currently there is little exposure of the area as an agri-tourism destination, further marketing of the area could increase patronage; and

- An Economic Development Strategy could be prepared to inform any land use permissibility changes and initiatives to improve productivity and agri-tourism ventures to ensure the success of this work.

Rezoning

- There is potential for a review of zoning to be undertaken in the area to ensure land is zoned according to its use and potential function. This process may also lead to a more consistent assessment process in relation to agri-tourism land uses in the Study area; and
- The 'Rural Agriculture' zone could be renamed as the 'Priority Agriculture' zone so that the true purpose of the zone is consistent with the classification of the area under State Planning Policy 11 which was operational at the time the draft Study was prepared.

Subdivision

- 62% of respondents to the resident's survey undertaken supported subdivision in the Study area. WQPN 25 specifies that subdivision down to 4 ha in rural areas is compatible with P2 drinking water source areas. As the majority of properties in the Study area exceed this in land area, further subdivision in the Study area could be explored.

Recommendations

Based on the background research and data collection undertaken, and following an analysis of the constraints and opportunities relevant to the Study area, the draft Study made the following recommendations:

Draft Recommendation 1

Support Growers in the Study area to implement their preferred recommendations of the EDDP. The draft Study identified that implementing recommendations of the EDDP would require the support of all tiers of government, and the Shire could assist local Growers by advocating on their behalf, and providing professional servicing. It was also identified that implementation of Recommendation 1 would need to be initiated by landowners themselves.

Draft Recommendation 2

Recommendation 2 of the draft Study related to exploration of alternative land uses for the Study area. This would include a review of the current rural zones in the Scheme to identify where changes to zone provisions and land use permissibility's could be made. The draft Study identified the following actions relative to Recommendation 2:

- The 'Rural Agriculture', 'Rural Conservation', 'Rural Landscape Interest' and 'Special Rural' properties would be reviewed to ascertain whether properties are consistent with the intent of the zone;
- A new 'Priority Agriculture' zone should replace the 'Rural Agriculture' zone without changing the intent of the zone;
- The 'Rural Conservation' and 'Rural Landscape Interest' zones should be rationalised into one zone, as the intent of both zones is similar; and
- Additional land uses should be made permissible in the Study area through the Scheme to facilitate new revenue opportunities and diversification of the agricultural industry.

Draft Recommendation 3

Community pressure to further develop the Study area and permit subdivision to occur has been one of the major drivers for this review. This was evident in community workshops, and 62% of respondents to the 2012 resident's survey expressed their support for further subdividing the area. In response to this pressure, the draft Study included Recommendation 3, which outlined seven potential planning options regarding subdivision of the Study area. These options are as follows:

1. No further subdivision of the Study area

Option 1 related to the retention of current lots sizes in rural zones of the Study area.

2. Reduction of minimum lot size in new 'Priority Agriculture' and 'Rural Conservation' zones

With the exception of the 'Special Rural' zone, all of the all rural zones in the Study area have a minimum lot size of 12 ha, however, this may be reduced to 6 ha subject to certain criteria. Option 2 considered reducing the minimum lot size of rural zones in the Study area to 8 ha, with further ability to subdivide down to 4 ha subject to certain criteria. This Option would apply to the 'Rural Agriculture' and the 'Rural Conservation' zone.

The draft Study acknowledged that the EDDP and the Swan Valley Land Use and Management Paper both suggested that a reduction in lot size will lead to reduced viability of agricultural production in the long term. However, while reduction in land size is not considered conducive to agricultural production, this minimum size of 4 ha was consistent with the land use compatibility table contained in the WQPN 25 and had received tentative support from the Department of Planning.

3. Priority Agriculture Ancillary Lot

Option 3 to establishment of a Priority Agriculture Ancillary Lot was based on the notion that it is unlikely that new production will be introduced in the area. Furthermore, that making it possible for the next generation of growing families to remain in the area through an injection of capital may preserve the amount of production exists today.

The agricultural ancillary lot would essentially be excised from a lot which is currently under production, and would be no less than 2 ha in area. The balance lot would need to remain a minimum of 4 ha to continue to be agriculturally productive. Any proponent would need to produce an Agriculture Impact Statement to demonstrate that the subdivision would not have a detrimental impact on the production of the lot.

The draft Study identified that the ancillary lot may be able to be used for a residence, agri-tourism activity or boutique agricultural activity, although the Shire would ultimately have little control over the future land use on this lot. In regard to the remaining 4 hectare productive lot, it was not considered that the current rate of losing land under production (22% loss since 1988) would be increased, even if all ancillary lots were lost to production over time. It was acknowledged that the EDDP suggested that this option would only bring about financial relief for land owners in the short term, and would ultimately be detrimental for production in the Study area.

4. Excision of a 2 hectare Lot

This option was proposed as a variation of Option 3. It would allow a one off 2 ha lot subdivision from all the properties regardless of whether they are currently under production, and would require the remaining balance lot to be a minimum of 4 hectares. This Option would not apply to 'Special Rural' zoned properties, however, is considered more equitable as it does not discriminate against the owners of non-productive rural lots. There was no planning argument to support this option contained in the draft Study.

5. Rural Cluster

Option 5 introduced the concept of Rural Cluster development whereby subdivision of a portion of a rural lot into a number of small strata lots would occur. The balance of the land would remain as common property that would contain common effluent disposal systems and agricultural production. The common land under production would be leased to a grower or maintained by strata body corporate. The draft Study identified that potential conflict between residents and the production activities would require careful management and the overall design would need to ensure that the rural amenity of the Study area was not compromised. This option would require a substantial change of mindset from the current growers and potentially might not have a very high uptake.

6. Transferable Development Rights

Option 6 introduced the idea of transferring the development rights relating to a property. This planning tool would allow the landowners who have a potential to develop or subdivide their land to sell their development rights in order to protect the agricultural land. This would allow the purchasing developer to create increased density within a development located elsewhere. The draft Study identified that before implementation of this Option could occur, further developmental/subdivisional

potential would need to be facilitated in the Study area.

7. Reclassification from Priority Agriculture to Rural Settlement Designation

Option 7 related to a full reclassification of the area to a rural-residential area with a minimum lot size of 2 ha. This option was developed in response to community pressure for small lot subdivision to be permitted. Both the WQPN 25 and SPP 2.5 consider a 2 ha to be the size of a rural smallholding lot. The Shire's Planning Scheme provisions are generally consistent with these State policies.

At the time the draft Study was completed, State Planning Policy 11 was still operational, therefore, it was identified that for this option to be implemented the Shire would need to request that the DAFWA and DoP review the status of the Study area as a priority agricultural area and potentially reclassify it to a rural settlement area. The draft Study also indicated that this option was unlikely to be supported given the value of the area in terms of the regional significance as an agricultural area, as well as the known position of the DAFWA.

It is noted that under the new SPP 2.5, the Study area is not actually delineated as a priority agricultural area, although it most likely meets the criteria to be designated, and therefore, is still afforded a significant amount of protection under SPP 2.5.

Decision Analysis Matrix

In addition to making three recommendations, the draft Study also included a 'Decision Analysis Matrix' which is included as Table 5 below. The purpose of the matrix was to illustrate all of relevant elements to be taken into consideration when deciding on the Study recommendations.

As shown in Table 5, the planning advice was based on the following factors:

- Whether the recommendation would constitute a planning solution to the issues facing the Study area;
- Whether the recommendation would require amendments to the planning Scheme;
- Whether the recommendation would constitute an economic development strategy;
- The impact the recommendation would have on agricultural productivity in the Study area;
- Whether or not the recommendation would result in financial benefit for landowners;
- The likely position of State Government Agencies towards the recommendation; and
- The potential impact that implementation of the recommendation would have on the Shire.

As evident below, the analysis ultimately resulted in planning advice being in support of Recommendation 1 and 2, and Option 1 of Recommendation 3. All other options of Recommendation 3 were not supported.

Council Adoption

In November 2013, the draft Hills Rural Study was reconsidered by Council who resolved to:

1. Receive the Economic Development Discussion Paper and the draft Hills Rural Study and along with its Appendices for an 80 day public consultation period from 26 November closing on 14 February 2014.
2. Approve a public forum to be held during the consultation period to provide detailed presentations of the Reports and to provide an opportunity for clarification on any matters required by the Community.

Details on the advertising of the draft Hills Rural Study and the outcome of the public consultation period are provided in the next Chapter of this Study.

Table 6: Decision Analysis Matrix

Recommendation:		1	2	Recommendation 3						
				Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Name:	Status Quo	Future Business Development	Review of Current Land Use Zonings	No change to subdivision potential	4 ha Minimum Lot Size	Ancillary Lot (Production only)	Excision 2 ha Lot (All lots)	Rural Cluster	Transferable Development Rights	Reclassification from Priority Agriculture
Planning solution	None	None	Add additional land uses to the Scheme	None	Minimum lot size to become 4 ha in Priority Ag and Rural Conservation zone	Allow 2 ha ancillary lot for productive lots, with 4 ha balance lot	Allow 2 ha lot on all lots	Create framework to allow rural clustering	Create framework for TDR	Reclassify zoning of broad area from Priority Agriculture to Rural Settlement Designation
Scheme Amendments	N/A	x	✓	x	✓	✓	✓	✓	✓	N/A
Provide economic development strategies?	x	✓	✓	✓	✓	✓	✓	✓	✓	x
Impact on Agriculture	Continued industry decline likely	Subject to positive engagement with growers	Diversified industries & revenue opportunities	Subject to positive engagement with growers	Continued industry decline likely	Potentially some increase	Continued industry decline likely	Potentially strata dev. allows strata fees to support productive use of land	Uncertain	Continued industry decline expected
Financial benefit to landowner	None	Longer term benefits	Longer term benefits	Longer term benefits				More complex	More complex	
Department Assumptions: - DoP - DAFWA - DoW - DFES	General Support expected	General Support expected	Dependent on additional uses	General Support expected	Mixed levels of support	Support mostly unknown	Not likely to be supported	Not likely to be supported	Support unknown	Not likely to be supported
Impact on Shire	Significant community impact	Budget contribution to support initiatives	Diversified economy	Budget contribution to support initiatives	Demand for services and infrastructure may increase	Demand for services and infrastructure may increase	Demand for services and infrastructure may increase	Demand for services and infrastructure may increase	Can focus development in appropriate areas	Demand for services and infrastructure will increase
Planning Advice	Not Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
Colour Key:	● Support or positive impacts		● Not supported or negative impacts			● Tentative		● Support Unknown or Uncertain		

8. PUBLIC CONSULTATION

Public Consultation Process

In accordance with Council's November 2013 resolution, Shire staff advertised the draft Study for an 80 day period which finished on 14 February 2014. The draft Study was advertised by way of letters to all owners of land within the Study area, notice on the Shires website and in the local newspapers. An open forum was held for interested land owners, providing an opportunity to ask questions and seek further clarification on the issues raised in the Study. A submission template was also provided for public use which encouraged submitters to comment on each recommendation of the Study, in addition to selecting their preferred option relating to subdivision for Recommendation 3. Copies of the distributed advertising material is included in Appendix 6.

At the closing of the public consultation period, Shire staff had received a total of 318 submissions from the public, while a further six submissions were received from Government Agencies and Town Planning Consultants. A summary of the submissions on the draft Study, and the responses of Shire staff to the comments made is provided in Appendices 7 and 8. The remaining sections of this Chapter provide a summary and analysis of the submissions received, and will focus separately on each recommendation of the Study.

Agency submissions

Government Agencies were generally opposed to any notion of further subdivision in the Study area. In particular DoP and DAFWA consider that land fragmentation may result in a reduction of agricultural production and would therefore be inconsistent with SPP 2.5. The DoP, DAFWA, and DoW expressed varied levels of support for Recommendations 1 and 2 being implemented, consistent with the planning advice contained in the decision matrix of the draft Study. Other agencies such as the Department of Health and the Water Corporation did not specially address any of the recommendations, however, were not supportive of any land use planning changes which may negatively impact on their primarily interests being public health and the provision of potable water. The view of submitting Agencies are summarised below.

Department of Health

Did not make comment on each of the draft Study recommendations, however, is not supportive of any development that may reduce the quality of public drinking water sources.

Department of Water

Did not make comment on each of the draft Study recommendations, however, is not supportive of any development that may impact of designated drinking water source areas reduce the quality of public drinking water sources. All planning should be consistent with SPP 2.7 and WQPN 25.

Water Corporation

Did not make comment on each of the draft Study recommendations, however, is not supportive of any development that may lead to a reduction in the quantity or quality of water available for allocation to the Water Corporation.

Department of Agriculture and Food

Not supportive of any planning which is inconsistent with SPP 2.5 and may compromise priority agriculture areas. Supportive of Recommendation 1 and 2, and Options 1 and 6 of Recommendation 3. Specifically not supportive of Options 2, 3, 4 and 7 of Recommendation 3, and unsure about other options.

Department of Planning

Not supportive of planning that would be inconsistent with the objectives of SPP 2.5 or 2.7. Particularly not supportive of any further planning for the purpose of subdividing the Study area. Concerned at the lack of detail and research into how some of the draft Study’s recommendations would be implemented, particularly Recommendation 1 and Option 6 of Recommendation 3. Specifically not supportive of Recommendation 3 with the exception of Option 1.

Statewest Planning

Did not comment on each of the draft Study recommendations, however, considers that the ‘Rural Agriculture’ zoned land bounded by Canning Road and Lawnbrook Road West should be excluded from the Study boundaries as this land is likely to be the subject of an MRS Amendment to re-zone the land to ‘Urban’ in the future consistent with surrounding land.

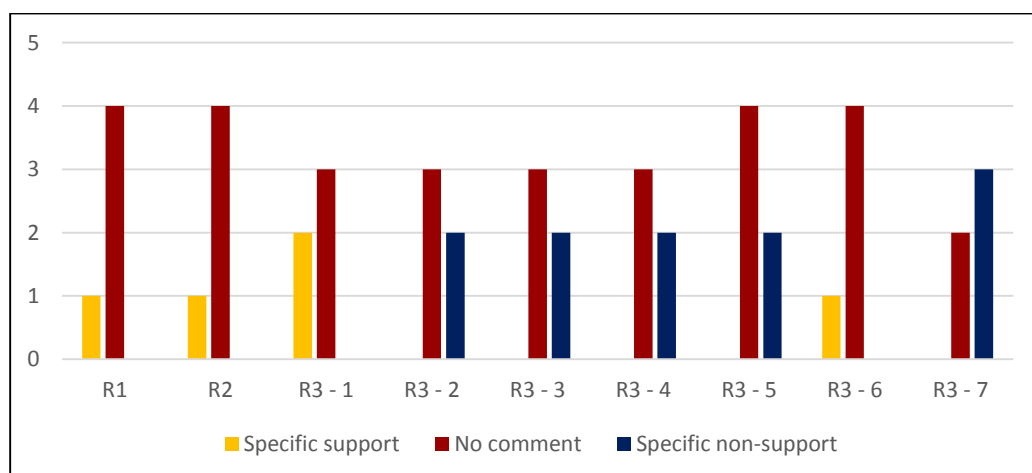


Figure 26: View of the six State Government Agencies who made submissions towards each recommendation of the draft Study

Public Submissions

A large number of the public submissions received (231 of the 318) were an identical submission which had been signed by different members of the public, this submission is referred to in this chapter as the 'group' submission. This submission supported Recommendation 7 of the Study to reclassify the Hills area from Priority Agriculture to Rural Settlement and allow subdivision in the area to occur. The balance of the submissions were received from other members of the public, each with differing views on the future of the Hills Rural area.

Interestingly, the majority of people who made submissions (174 of the 318) do not own property within the Study area. In addition, there were 5 submissions of unknown origin. As visible on Figure 27 below, the vast majority of the 'group' submissions were signed by people living outside the Study area. The majority of individual submissions were written by people inside the Study area, with only 20 originating from outside the area.

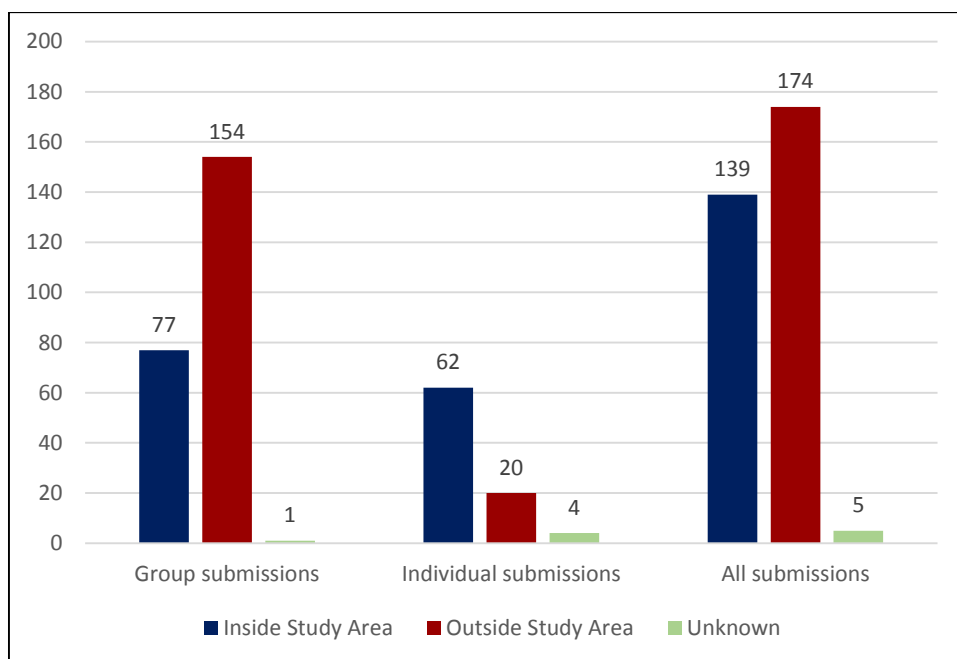


Figure 27 – Number of submitters who do and do not own property in the Hills Rural Study area.

Recommendation 1

Recommendation 1 of the Study related to implementing any number of the 17 economic development actions identified in the EDDP. These actions relate primarily to industry development, marketing and innovation strategies which may facilitate the growth and prosperity of the agriculture

and horticulture industry in the Study area.

Of the 87 individual submissions received, only 46 (approximately 53%) made comment on Recommendation 1 of the Study. Of these 46 submissions, only six actually expressed support for Recommendation 1. Approximately 22 of the submitters who addressed Recommendation 1 (25%) made negative comments relating to this Recommendation and/or the regeneration of agriculture/horticulture in the Study area. The balance of comments were generic comments neither in support nor against Recommendation 1.

A summary of public responses to Recommendation 1 is included below. Figure 28 does not take into account the response of the 'group' submission towards Recommendation 1 which reads: *"I do not support the Economic Development Discussion paper. The majority of its recommendations are impractical, expensive, untested (or tested and been proven not to work) and difficult to manage"*.

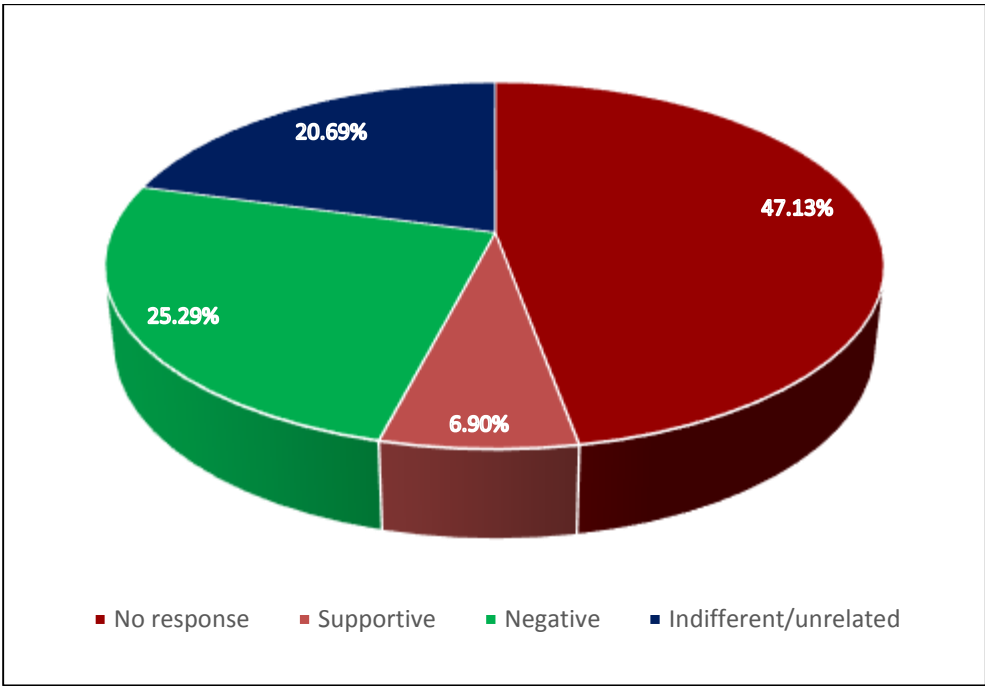


Figure 28: Nature of submitter responses relating to Recommendation 1 of the Study. Excludes 'group' submission response.

Considerations

Two of the actions identified in the EDDP focussed on agri-tourism, more specifically, creating a common brand and campaign for growers in the hills along with promoting a tourist trail around farms which are members of the initiative. Interestingly, this type of economic development strategy is actually aligned with vision that a significant number of submitters have for the Study area. These submitters made comments relating to the area becoming similar to the Swan Valley and focussing on day-tourism.

The relative unpopularity of Recommendation 1 is at odds with these comments considering that implementation of Recommendation 1 may assist with facilitating agri-tourism. Possible explanations for this contradiction could be that the community's fixation on subdivision in the Study area prevented them from supporting any other recommendations of the Study, or alternatively that submitters did not link Recommendation 1 with the popular concept of agri-tourism.

Recommendation 2

Recommendation 2 of the Study related to amending the Scheme to identify where changes to land use permissibility could be made, based on the predominant land use, land capability and trends observed in the Study area.

Over 40% of individual submitters did not make comment on Recommendation 2. A large proportion of submitters who addressed Recommendation 2 provided comments which were either general in nature, and frequently, were actually unrelated to the recommendation itself. Usually, these submitters would take the opportunity to comment further on the need for subdivision to be permitted in the Study area instead of focussing on the potential for additional land uses to be introduced.

The submitter's responses toward Recommendation 2 is represented visually below. Figure 29 does not consider the response of the 'group' submission towards Recommendation 2, as it is unrelated to the issue of additional land used being introduced. The 'group' submission response to Recommendation 2 reads: *"I support reviewing the Local Planning Scheme to allow for subdivision down to two hectares within the study area."*

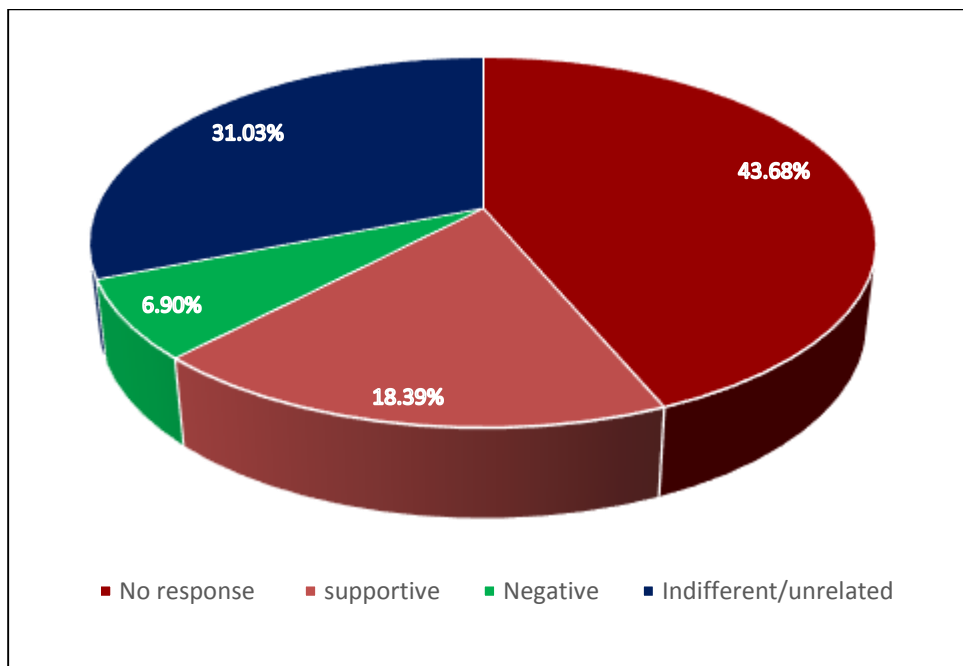


Figure 29: Nature of submitter comments relating to Recommendation 2. Excludes 'group' submission response.

Considerations

Although very few submitters specifically expressed support for Recommendation 2, the following points were among some of the most common reoccurring comments across the submissions:

- Land use controls should be relaxed to provide land owners with more options; and
- The area should be developed into a tourism hub similar to the Swan Valley.

The relative frequency of these comments is contrary to the relative unpopularity of Recommendation 2. There is a possibility submitters did not link Recommendation 2 with land use control relaxation and/or development of more tourism type land uses.

Recommendation 3

Overview of all submissions

Are submitters generally for or against subdivision?

A review of all the submissions on the Hills Rural Study shows that an overwhelming majority of submitters support some degree of subdivision in the Study area in the future. Figure 30 demonstrates that over four times more individual submitters favoured subdivision than otherwise. Overall, almost 95% of all submissions favoured subdivision in one form or another.

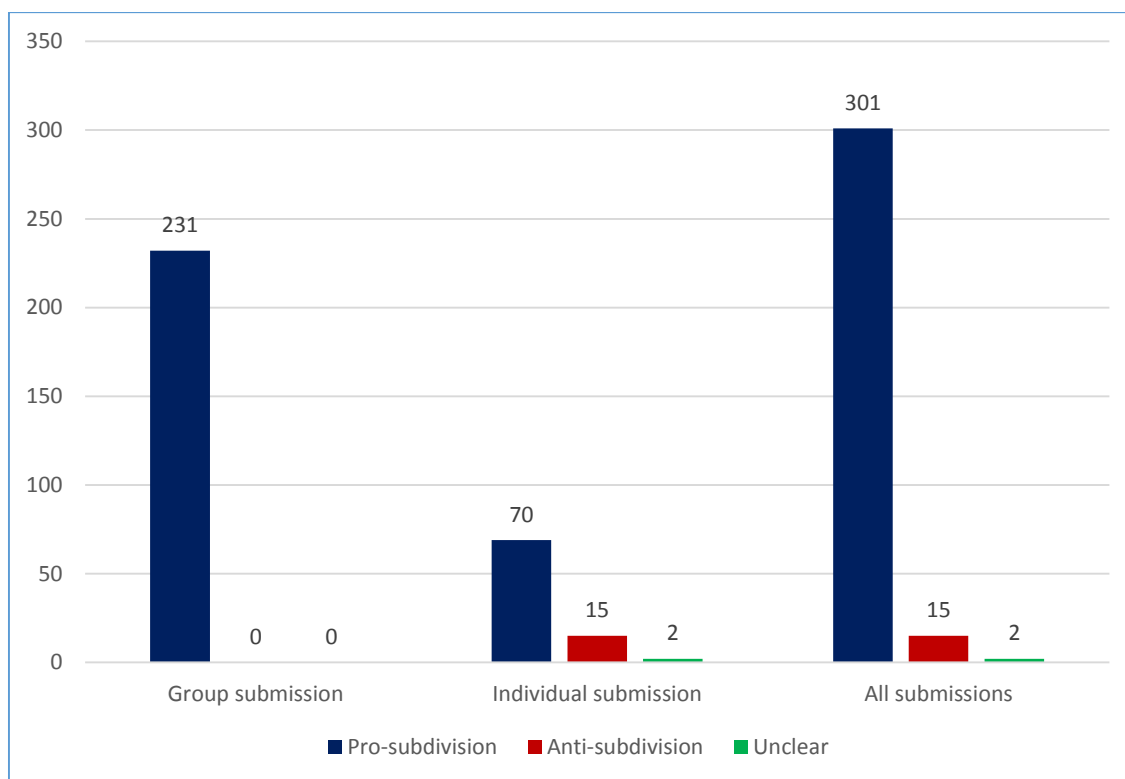


Figure 30: Number of all submitters for and against some form of subdivision in the Hills Rural area.

Summary of pro-subdivision submissions

Overall, submitters in support of some form of subdivision shared numerous opinions. The most common themes in support of subdivision are outlined in the ten points below.

1. Subdivision would facilitate property being retained in the family longer/allow younger generations to purchase a piece of family land and remain close together;
2. Subdivision would finance retirement in one way or another and/or the Australian Tax Office classifies a retirement home lot for farmers as being 2 hectares or less. Subdivision to below this threshold would allow us to claim the retirement pension;
3. Properties in the area are too large/difficult to maintain/property owners are aging and struggling with property upkeep/younger generations are not interested in working the land;
4. Subdivision would provide capital which could be reinvested to better maintain the properties and/or regenerate agricultural/horticultural pursuits.
5. Subdivision will encourage the development of intensive/boutique/organic tourist pursuits which are the future for the Hills Rural area;
6. Fruit production will continue to decline. The industry is no longer viable due to a loss of export markets and an increase in costs;

7. The proximity of the area to Perth means that property values are high and agriculture is not viable;
8. Subdivision would result in more people living in the hills, this would benefit local businesses, schools and other local groups creating a more viable community;
9. More people in the area would ultimately mean an increase in local businesses and diversification of work opportunities; and
10. Re-zoning to allow or subdivision would allow the clearing of vegetation and ultimately reduce the ever increasing bushfire risk.

Summary of anti-subdivision submissions

Due to there being significantly less submitters who were opposed to subdivision, there were significantly less common themes among the submissions, the four points below cover these.

1. Subdivision will increase property values and/or facilitate further decline in the agriculture/horticulture industry.
2. Subdivision will spoil the character/identity of the Hills Rural area, and the very reason why it is attractive to tourists;
3. Subdivision would increase noise, traffic, lights and other nuisances; and
4. Agriculture will become viable again in the future and it is critical that lots remain large enough to accommodate a return to agriculture/horticulture at this time.

Preferred approach to subdivision

Recommendation 3 provided submitters with several options relating to subdivision which are summarised as follows:

1. No subdivision;
2. Reduce minimum lot size in new 'Priority Agriculture' and 'Rural Conservation' zone to 8 hectares or 4 hectares subject to certain criteria;
3. Priority Agriculture ancillary 2 hectare lot for lots currently 6 hectares or larger;
4. Excision of a 2 hectare lot from lots with or without agricultural production that are currently 6 hectares or larger;
5. Rural clustering of lots into a number of smaller strata lots within a separate agricultural lot;
6. Transferable development rights, allowing land owners with subdivision potential to sell their development right in order to protect agricultural land; and
7. Reclassification of Priority Agriculture land to a rural settlement designation.

Figure 31 below represents the preference of submitters towards each of the above options. Where submitters selected more than one option as their preference, only the first preference has been taken. Interestingly, Option 6 did not receive any support from submitters, while Option 7 to

reclassify priority agriculture land to a rural settlement designation was the preference of over 80% of submitters. This is likely due to the effect of the 'group' submission.

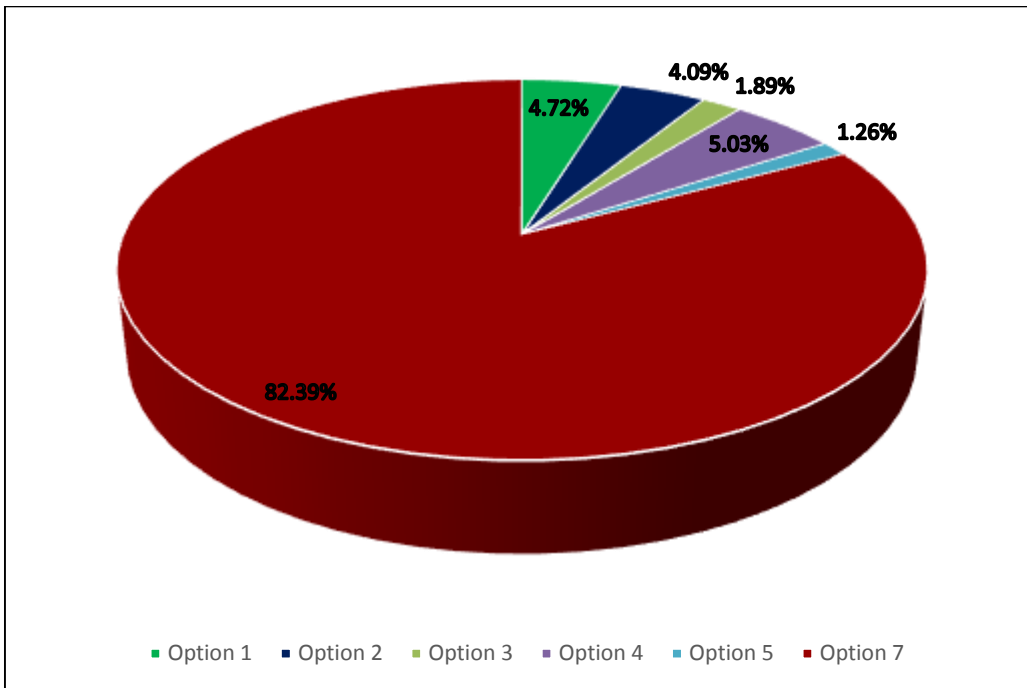


Figure 31: Preferences of all submitters towards each approach to subdivision (Options 1 -6).

Focus on submitters who own property in the Study area

As the portion of the community that would be most affected by land use changes in the Study area, it is considered important to review the preferences of submitters who own property in the area.

Figure 32 below demonstrates that similar to the overall results, the overwhelming majority of submitters who own property and/or reside in the Hills Rural area support some degree of subdivision in the area in the future. Only approximately 7% of submitters from within the Study area were against any form of subdivision in the future, with 1.5% of these submitters being unsure or indifferent.

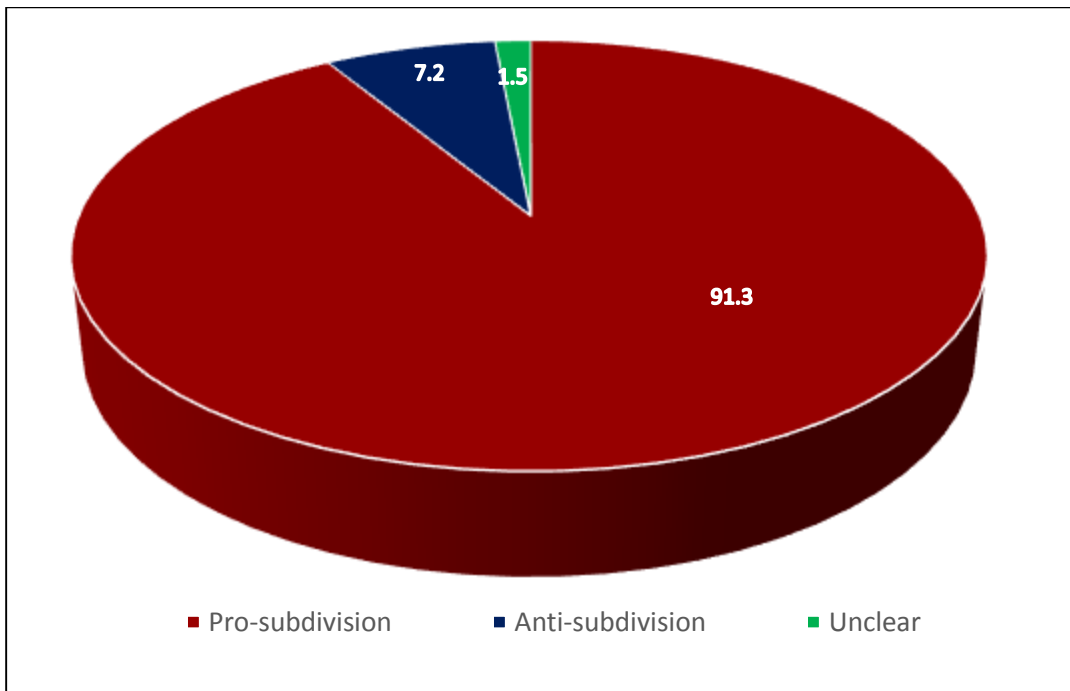


Figure 32: Preference of submitters who own property within the Study area.

Although the majority of submitters from inside the Study area support subdivision, it is highly likely that only some of these submitters would directly profit from subdivision if it were possible in the future. Currently, the minimum lot size permitted for zones within the Hills Rural area is 12 hectares or 6 hectares subject to certain criteria being achieved. The Study suggests that this could be reduced to 4 hectares, consistent with the State Government's *Land Use Compatibility in Drinking Water Source Areas* document. Furthermore, Options 3 and 4 would facilitate the creation of a smaller 2 hectare lot provided that a balance lot of at least 4 hectares is retained.

Based on this, if Recommendation 3 of the Study was implemented in the future and some degree of subdivision was permitted to occur, it is likely that only properties of 6 hectares or over would have subdivision potential. Figure 33 below focusses only on submitters who own property in the Study area who favoured some degree of subdivision in the future. Interestingly, 41% of the submitters within the Study area who favoured subdivision would not actually directly profit from being able to subdivide their own property.

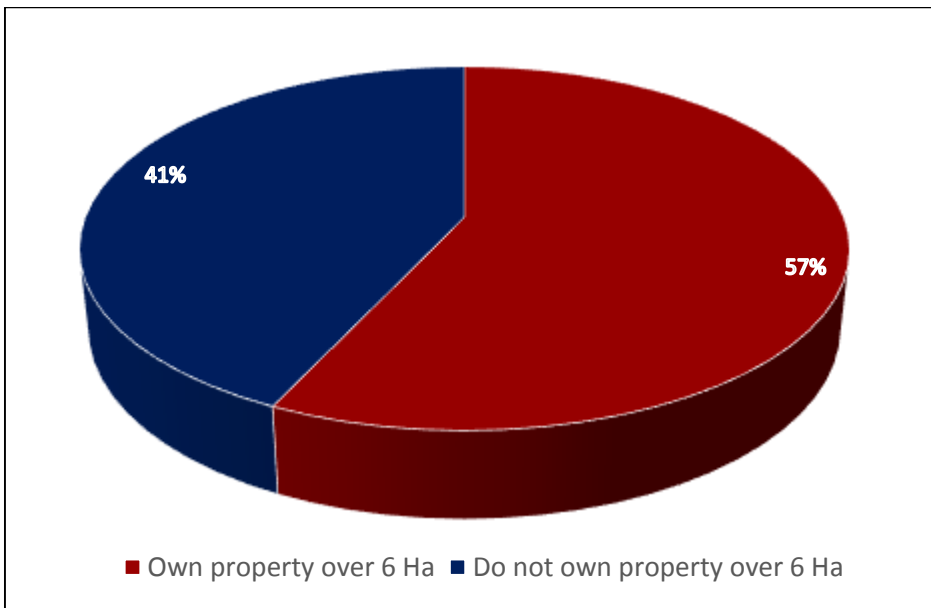


Figure 33: Proportion of 'pro-subdivision' submitters within the Study area who own properties over 6 hectares in area.

If subdivision of the Study area were to be explored further in the future, Option 7 is clearly the most preferred approach. Option 4 was the next most popular approach to subdivision consistent with the overall preference of submitters. This is visible in Figure 34 below.

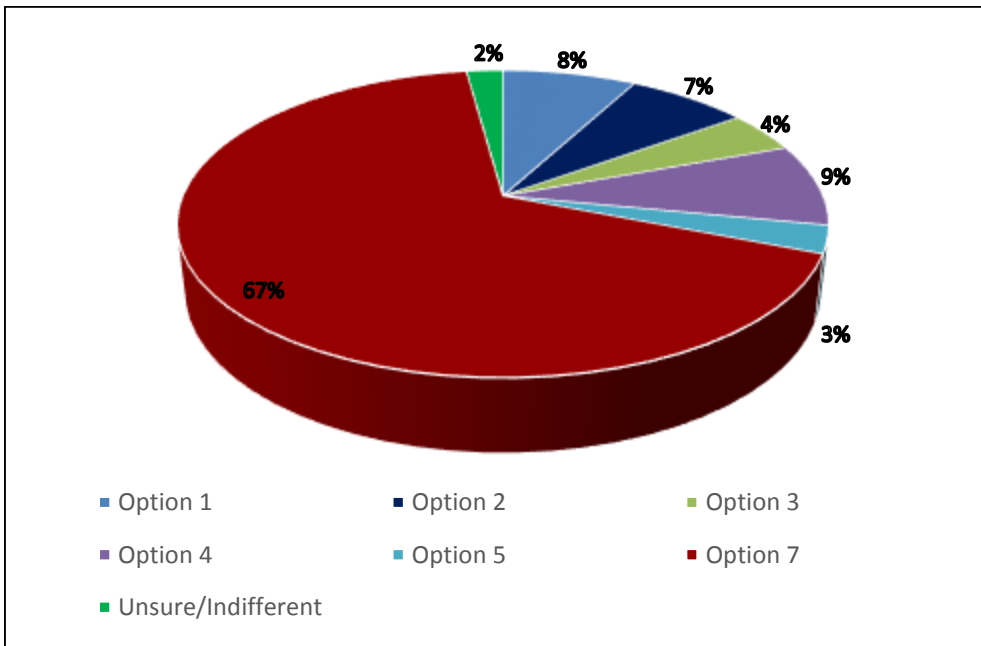


Figure 34: Preferred approach to subdivision of 'pro-subdivision' submitters who own property in the Study area.

Considerations

A large majority of the 'group' submissions (154) were signed by people who did not own property within the Study area. Yet, these submissions all contained identical comments such as:

Option 7 would benefit *me* by:

- Allowing family members to reside on the property;
- Allowing family members to invest into the property; and
- Retaining the property in the family.

As submitters who do not own property in the Study area would not actually benefit in the ways described in their submission, it is assumed that the submission has been made in support landowners within the Study area to whom the circumstances apply.

Table 6 of this Study is a 'Decision Analysis' matrix which was included in the draft Study for the purpose of illustrating the relevant elements to be taken into consideration when deciding on the Study recommendations. The matrix also made assumptions as to how the different recommendations of the draft Study would be viewed by the public and by Government Agencies. It is noted that on review of the submissions to the draft Study, the positions of the community and key stakeholders such as the DAFWA, DoW and DoP were fairly consistent with the assumptions contained in Table 6.

Summary

An analysis of the submissions indicates that the positions of the State Government in relation to future planning for the Study area are generally at odds with the public at large. While there is overwhelming public support for planning changes that will ultimately allow for land in the Study area to be subdivided in one way or another, the DoP and DAFWA have reinforced that such development is unlikely to be possible as it would not be consistent with State Planning Policies. These Agencies have not provided any indication whether State Policy relating to the area will be reviewed in the near future.

Public submitters on the draft Study were primarily concerned with the potential to subdivide properties in the Study area. In fact, a large number of submitters did not even make comment on Recommendations 1 and 2 of the Study which did not relate to subdivision. The vast majority of public submitters favoured some sort of subdivision in the Study area. In short, however, the comments and preferences of landowners and the State Government was largely in line with the assumptions of the draft Study.

9. Discussion

Issues facing the Study area

Economic Issues

On the international market, Australia is a relatively small producer of pome fruit (apples and pears) and stone fruit (plums, peaches, nectarines, apricots, and cherries). Western Australia, however, is Australia's second largest producer of plums, and a large producer of pome and stone fruit.

The Study area has traditionally been an area where fruit products including stone and pome fruit such as pears, and apples are produced. Many of these products were formerly exported to international markets, however, there is reduced capacity for export due to international competition from other places such as China and South America. The Study area was home to over half of the total number of peach, nectarine, plum and pome fruit trees for the Perth region in 2007, however, that number has now decreased. The area also produces wine grapes and is identified as one of the six wine regions in the Western Australia.

In the past DAFWA has acknowledged, that as with many other horticultural pursuits, pome and stone fruit growers are experiencing issues in securing affordable labour. Traditionally, many farms have been able to survive due to family providing labour at little or no cost. Unfortunately this scenario now occurs less and less due to the younger generations of orcharding families leaving the industry in favour of other jobs, and as a result have moved out of the area. A relatively high wage growth in Western Australia has also contributed to the loss of family members working for low wages on orchards, resulting in a drastic increase to the cost of labour for landowners. The issue of securing affordable labour for orchard work is compounded by recent labour shortages in Western Australia.

Fruit prices have been extremely volatile in recent years. This volatility is compounded by increasing input costs, such as energy and wage costs, as well as an increase in domestic and international competition. Fruit grown in other locations around Perth and internationally has a higher profit margin due to lower production costs. Many other regions within the Western Australia are producing fruit at a higher profit margin such as Manjimup, Gingin, and Balingup. The difference in profits may be attributed to land prices that are generally lower, more reliable water resources and larger lot sizes, allowing economies of scale to occur.

The market is also very restrictive as to who the growers can sell their produce to. It has been identified that the majority of growers in the Study area are too small to supply to the large

supermarkets, and it is claimed that supermarkets chains will not enter into long term contracts with growers in these smaller growers. Further to this, growers in the Study area have advised that due to high quality soils, the Study area generally produces higher quality fruit than other regions, however, that supermarkets do not consider the quality of fruit when offering a price. Unfortunately the limited number of local markets are too small to accommodate produce from all the smaller growers.

In addition to decreasing profit margins and the increased cost of inputs, including wages, maintenance, and fuel, many of the existing assets used for production on properties in the Study area are claimed to be almost fully depreciated in value.

This Study has revealed that the initial start-up cost for new production or in order to diversify production in the Study area may be too prohibitive considering the current state of the fruit market. The establishment of new orcharding business is believed to be very expensive, in excess of \$75,000 per ha. For new investors, the cost of financing land and establishing production would add significant costs to the bottom line, as well as increasing personal risk significantly, particularly given that it is likely to be 6-8 years before a return is seen on the investment.

Through the course of this Study growers in the Study area have expressed a lot of uncertainty in the current and future economic markets. Most orchardists who made submissions on the Study reported a decline in agricultural production in the Study area and landowners that have fruit trees, but are not maintaining their orchards are required to remove those trees to avoid fruit fly issues. Aerial mapping has validated this decline in orchards which has been estimated as a net loss of 22% since 1985 images. As accessing water resources becomes increasingly difficult for landowners, input costs continue to rise and profits margins continue to decline, it is highly unlikely that landowners will replant orchards in the near future as risk of uncertain returns remain an issue.

Social Issues

Many of growers within the study boundaries are second and third generation growers. Traditionally, farming operations were undertaken in family groups, with most family members living on the same or nearby properties. The agricultural based families could survive through times of hardship due to members of the family working without the wages or through other such arrangements.

Demographic data, and information gained from submitters on the draft Study reveals that the younger generations of families who own land in the Study area are increasingly securing work in other industries such as mining. This, coupled with the price and size of lots within the Study area has resulted in less young people owning land in the Study area or running orchards.

The inability for landowners to subdivide agricultural lots affects their ability to pass on portions of

their land to younger generations to ensure that families stay in the area. The large number of aging growers working the land by themselves is symptomatic of this. This trend is validated by the 1986 and 2011 demographic statistics which show that the number of people over the age of 60 in the Study area has risen from 12% to 25%. These landowners are less able to cope with the demands of agricultural production on large land parcels and as a result, are continually reducing the number of the fruit trees. Furthermore, aging landowners are finding that non-agricultural properties are too expensive to manage and the lot sizes are seen as impractical for those who do not run orchards or the like.

Traditional orcharding families have a strong bond with the area, however, large agricultural landholdings are priced prohibitively for young people wanting to start or continue orcharding work. Landowners have made it clear that reducing the minimum lot size and consequently giving some landowners the ability to subdivide their land would help address some of the social and financial issues they currently face. The majority of landowners would like to sell a portion of their land to their children and remain on a smaller homestead lot. They suggest that this would enable younger generations of a family to remain in the area and continue orcharding. In addition, it is claimed that the capital gained could be reinvested back into the land to improve and diversify production.

Without the prospect of subdivision, however, it is likely that young people will continue to turn to other means of employment and lifestyle, the traditional and practical knowledge of orcharding they acquired while young is likely to be lost. Some growers perceive the loss of family members to the industry as a major contributor to the decline of orcharding in the Study area. Although it is possible that some young people may move to agricultural regions outside of the metropolitan area where the cost of the land and availability of water still allows for the economy of scale, it is likely that a significant number of these people will not continue orcharding elsewhere.

Decline in water availability

Based on data from the Australian Bureau of Meteorology's data, State Planning Strategy 2050 acknowledges that a declining annual rainfall in the south-west of Western Australia is likely to impact on agricultural production in the region. In particular, State Planning Strategy 2050 recognises that a reduction in rainfall will limit the future expansion of irrigation and require agriculturalists to invest in new and alternative water supplies, as well as increase water use efficiency.

Unfortunately, landowners in the Study area have been subject to the impacts of reduced rainfall for many years now. Through the course of the Study, landowners in the Study area have made it clear that water availability is an increasingly a problem. It is claimed that there is competition for existing water supplies, and orchardists cannot be certain that adequate water will be available for crops. This severely limits the ability of orchardists to plan for the future or to consider expansion.

Major constraints to future planning

Protection of agricultural land

This Study has revealed that perhaps the largest barrier to further subdivision of the Study area is the fact that the land is known to have the potential to be highly productive agriculturally. It is noted, however, that the area is no longer subject to a 'priority agriculture designation' as the new SPP 2.5 does not actually delineate areas of priority agricultural land as per its predecessor which was operational at the time that the draft Study was prepared and advertised. This change in policy is most relevant to Option 7 of Recommendation 3 in the draft Study which related to the removal of the priority agricultural designation in favour of rural settlement development.

Unfortunately for landowners in the Study area that are hoping to subdivide to resolve financial and social issues, the fact that the area is no longer delineated as a priority agricultural area does not mean that DAFWA or DoP have changed their positions relating to subdivision in the Study area. Instead of incorporating a 'priority agricultural' designation, SPP 2.5 identifies that local governments should undertake studies to define areas of highly agriculturally productive agricultural land within rural areas. Basically, SPP 2.5 pushes the responsibility for identifying priority agricultural areas onto the local government, a task which was not previously undertaken by the local governments.

As outlined in Chapter 3, priority agriculture land is identified to be as land of State regional or local significance due to its collaborative advantage in terms of environmental attributes and is derived from data which has been subject to consultation and refinement. *The Rural Planning Guidelines 2014* are intended to support SPP 2.5 and outline the process which should be followed by local governments when attempting to define these areas of land.

It has been made clear by these Government Agencies that land with the potential to be highly agriculturally productive must be protected regardless of fluctuations in the economic viability of growing on the land. This position is aligned to the State Planning Strategy which outlines that:

"Prime agricultural land as well as the land required for intensive agriculture, food processing and manufacturing, infrastructure corridors (rail, road and related services) and food distribution facilities are under constant threat from urban expansion and the fragmentation of rural land into smaller lifestyle holdings. The continued loss of agricultural land close to cities and towns requires that measures are put in place to secure land for future agricultural and food industry production. This includes the need for the strategic identification of future land areas and precincts, the definition of buffers, the provision of land for infrastructure corridors and innovation to improve the general status of food security."

As a result of SPP 2.5 neither the Shire nor landowners can be certain whether a property should be considered as a priority agricultural property, making it extremely difficult to progress planning for the Study area. Notwithstanding this, the resulting need to undertake a Scheme Amendment to define priority agricultural areas in the Shire is considered to be an opportunity as investigations in this regard may find that portions of the Study area do not conform to the definition of 'priority agriculture'.

Protection of water resources

In addition to gaining access to water resources being an issue, the fact that the Study area is a drinking water source area also restricts the use of land in the area. Protecting the drinking water resources of the area is the DoW's main concern, rather than preventing subdivision. Although a few properties are designated as P1 drinking water source area, the area is primarily P2. Strategies such as the MHCA Strategy indicate that P2 areas should be managed to ensure that there is no increased risk of pollution to the water source and that any risk is minimised.

The land uses which DoW considers suitable for P2 areas are contained in WQPN 25 and the MHCA Strategy, and these include a range of low intensity agricultural, rural, and recreational based land uses, in addition to several tourism related land uses such as chalets and restaurants. Many land uses are only considered suitable for the area subject to certain conditions being achieved. These conditions may relate to site management practices or storage of chemicals, fuels, disposal of waste, and application of nutrients.

It is considered by many that the P1 and 2 designations over the Study area only act as a barrier to development as applications are subject to an extra level of scrutiny, and are often referred to other agencies for comment. The need for a streamlined and consistent approach to planning in drinking water areas is recognised in the MHCA Strategy which recommends a framework for land use planning and water management within the catchment area. This study has, however, revealed that recommended framework of the MHCA Strategy has not yet been implemented by the WAPC or the Shire leading to the following issues:

- There are differences between land use permissibility's in Shire's Scheme, WQPN 25 and the MHCA Strategy. The Scheme does not permit particular land uses in the Study area which may be deemed 'compatible' or 'compatible with conditions' by the MHCA Strategy such as a chalet. As a result, the development application process may be slow and uncertain for landowners;
- A small portion of the Study area which is P2 is also contained in the MRS 'Water Catchment' reserve. This is inconsistent with the MHCA Strategy which specifies only P1 areas should be part of this reserve, and means that all applications relating to that land must be determined by the WAPC. This significantly increases the processing time for development applications in

- these P2 areas; and
- The MRS 'Rural – Water Protection' zone has not been extended over P2 areas to trigger a local level Scheme review to ensure only appropriate land uses are permitted in P2 areas. Such a Scheme review would occur in consultation with the DoW and once finalised would remove the need for most individual development applications to be referred to DoW for comment.

Although the Shire has taken steps to partially rectify this issue by progressing a Scheme Amendment to make a 'chalet' land use permissible in some parts of the Study area, a further more comprehensive and strategic review of the Scheme is required if landowners in the Study area are to have diversity and certainty in the use of their land, and be able to easily obtain the relevant approvals for development on their land.

Bushfire risk

Much of the Study area will soon be designated as a bushfire prone area in the Scheme. Once land is designated as bushfire prone, it becomes subject to the provisions of SPP 3.7 which is still in draft form but is likely to be gazetted towards the end of 2014. The intent of draft SPP 3.7 is to assist with reducing the risk of bushfire to people, property and infrastructure by taking a risk minimisation approach to development proposed in bushfire prone areas. Draft SPP 3.7 is supported by the draft Guidelines which outline design criteria which should be achieved in bushfire prone areas.

Many submitters on the draft Study commented that further subdivision of the Study area would reduce the risk of bushfire as new roads would be constructed and vegetation would be cleared on privately owned land. This is contrary to draft SPP 3.7 which has a general presumption against further development or intensification of land uses where there is a lack of sufficient certainty that potentially significant adverse impacts can be reduced or managed. Furthermore, the Guidelines acknowledge that many bushfire prone areas often contain high quality vegetation, and that it may not be acceptable to clear this vegetation solely to achieve bushfire separation distances.

Following the release of draft SPP 3.7 and the draft Guidelines, environmental consultants Strategen undertook a strategic bushfire review for the Hills Rural area on behalf of the Shire. Although this review focussed on the Pickering Brook region, it is likely that its findings are applicable to the majority of the Study area. As expected, this review identified that many properties do not comply with the bushfire performance criteria of the draft Guidelines, particularly properties located on large rural cul-de-sac roads that can only be exited from in one direction. Furthermore, the review identified that intensification of the area through subdivision would be placing a larger number of people at risk of a bushfire hazard.

The review considered the possibility of further subdivision in the Hills Rural area, and identified that

any proposed development would need to be undertaken in accordance with the current and draft future Guidelines and the draft SPP 3.7, and designed in such a way as to provide additional bush fire mitigation measures such as:

- A revised road network that provides compliant, safe access and egress from the site;
- Built and designed safe refuge areas that are self-protecting from bush fire;
- Building construction and design in accordance with AS 3959–2009;
- Regular fuel hazard reduction and firebreak management in surrounding bushland areas to provide additional protection and defensible space;
- Provision of reticulated water and auxiliary 90 000 L water tanks at strategic locations;
- Installation of reticulated sewage with associated treatment plants and options for reuse to irrigate green grass throughout playing fields and other possible safe refuge areas; and
- Implementation of a developer contribution scheme and differential rating to support the above risk mitigation measures.

A further section of the review included the following comment:

"although future expansion of the precinct may be achievable, significant bush fire risk mitigation will be required to provide adequate protection to current and future landowners... A detailed evaluation of the financial costs and responsibilities associated with the required bush fire risk mitigation works should be undertaken to determine the viability of the project."

The extensive nature of these bushfire mitigation measures further highlights that any expectations regarding the reclassification of the Hills Rural area, or reductions for the minimum lot sizes may be unrealistic given the bushfire constraints over the land, and the significant cost that would be involved with developing the area in a manner which is compliant with the draft Guidelines.

Key opportunities

Economic development initiatives - agri-tourism

The EDDP prepared in relation to the Study area suggests 17 actions which are aimed at improving to the economic viability of agriculture and horticulture in the Study area. Two of these actions focus on agri-tourism, in particular, creating a common brand and campaign for growers in the hills along with promoting a tourist trail around farms which are members of the initiative. Currently, there is some collaborative agri-tourism initiatives occurring in the Study area such as the Bickley Harvest Festival that occurs once a year, however, in comparison to the other areas such as the Swan Valley, there is little exposure of the area to the tourist market.

As outlined in the previous chapter of this Study, a significant number of submitters were supportive of developing agri-tourism in the Study area and commented that the Study area could become the next Swan Valley through the promotion of tourism land uses. Furthermore, State Government agencies have expressed in principle support for recommendations of the draft Study that related to agri-tourism development which ultimately means it is a realistic opportunity for the future.

The Hawkesbury Harvest initiative outlined in Chapter 6 of this Study has been seen as a success in terms of combatting several of the major issues facing growers in the area through development of agri-tourism. The following are considered to be some of the key contributors to the success of the initiative:

- An early focus on establishing a directory of growers and building a network to assist with leading the initiative;
- Receiving financial support from local and Federal Government; and
- A collaborative approach to developing new business initiatives and tourism ventures, many of which involve the pooling of resources across different farms and between different members.

The trail has played a role in revitalising the community's interest in agriculture and their heritage, brought about new opportunities for production in the area and helped balance global forces through diversification. It has also provided incentives to producers to better manage the land as it has become an asset to them for more than just production purposes.

It is acknowledged that the success of agri-tourism within any area is highly dependent on the community's attitudes, flexibility of planning, State regulations, quality of the strategic business planning and the appropriateness with which it is introduced in the traditional agricultural area. Agri-tourism is also highly dependent on the rural outlook and amenity of the area. Therefore, the preservation of the base agricultural land use and rural outlook is one of the most important elements to consider in an area where such new land uses are introduced.

The lack of community support for economic development initiatives generally is considered a fundamental barrier to the success of any such initiatives. Without the community itself being invested in implementing economic development initiatives such as agri-tourism development, it is very unlikely that a whole of government approach could be achieved similar to the Hawkesbury Harvest region where financial support was received from both the federal and local governments to drive the project. Nevertheless, there is an opportunity for landowners and the Shire to work together on implementing economic development initiatives which have been instigated at a community level.

Another barrier to the development of agri-tourism is the known conflict between potentially

incompatible agricultural and tourism land uses. A typical example being the impact of spray drift and odour on tourist dominated winery cafes or similar. It is important that potential land use conflicts such as this are carefully considered when agri-tourism development strategies and/or Scheme amendments are being undertaken. In this regard, it may also be necessary for the Shire to develop local planning policies to guide the assessment of agri-tourism land uses similar to the local planning policy prepared for 'Cellar Door Sales' in the Shire of Augusta-Margaret River.

Separate to agri-tourism it is also considered important that the Shire remain committed to assisting with the implementation of other non agri-tourism related economic development initiatives aimed at diversifying and improving the viability of agriculture/horticulture activities such as those identified in the EDDP. Even though there was very little support of Recommendation 1 of the draft the Study which related to this, if subdivision of land does not become possible, the landowners may revisit other means by which to improve their situation.

Review of zones

Recommendation 2 of the draft Study received the most consistent level of support across government agencies and the public, as there were no strong objections to a review of zoning and land use permissibility being undertaken in the Study area. It is considered that this opportunity could provide greater flexibility to landowners and also improve the development approvals process for agri-tourism land uses. A comprehensive review of zones in the Study area would likely focus on the following:

Consolidation of rural zones

Currently, there is 5 rural zones within the Scheme. Of these five zones, the 'Rural Conservation', 'Rural Landscape Interest' and 'Rural Agriculture' zones all have the same minimum lot size requirements. Furthermore, the objectives of the 'Rural Conservation' and 'Rural Landscape Interest' zones are almost identical. A review of zoning in the area may result in the consolidation of zones that relate to the Study area, in particular the 'Rural Conservation' and 'Rural Landscape Interest' zones. Through this review and consolidation, land would be reviewed to determine the most appropriate zone for particular areas based on their agricultural potential, conservation and landscape value, and the way that the land is currently being used. A consolidation of zones in the Study area would result in a more consistent planning approach across localities with similar attributes.

Introduction of new 'priority agriculture' zone

The issue of the Study area being a priority agricultural area was raised continuously during the course of this Study. A large proportion of submitters firmly believe that the Study area is not a priority agricultural area because currently agriculture and horticulture is not economically viable or

financially rewarding. On the other hand, DAFWA have provided the consistent advice that priority agriculture land is considered to be land with the highest potential for production because of its qualities and regardless of economics.

In order to provide clarity to landowners, and to inform future planning for the Study area, it is now necessary for the Shire to go down the path of implementing SPP 2.5 with respect to identifying areas of priority agricultural land. As outlined in the Rural Planning Guidelines 2014 this would involve integrating environmental data (soils, water, topography, climate etc) with information gained from landowners and site visits throughout the Study area. Using this information the Shire, in collaboration with DAFWA, will be able to undertake a comprehensive land capability assessment and map the priority agriculture areas within the Shire.

The process of delineating priority agricultural areas and incorporating these into a 'Priority Agriculture' zone in the Scheme, will ultimately provide clarity as to the properties which are most suited to agricultural production and those which are not. This process may result in some properties within the Study area falling outside of the priority agricultural area boundaries. It is, however, considered that a significant amount of the Study area would ultimately fall within the designated priority agriculture area for the following reasons:

- DAFWA already have a significant amount of data regarding the Study area, and have advised that it is a known Class 1 and 2 land capability area for agriculture;
- The land capability assessment contained in Chapter 5 of this Study also indicates that many portions of the Study area, particularly those on side slopes of the valley, contain soils which are generally highly conducive to horticultural growing; and
- The submissions on the draft Study did not contain any data to suggest that the area was no longer suitable for agricultural production.

Nevertheless, the process of reviewing the Study area for the purpose of accurately defining a 'Priority Agriculture' zone is considered to be an opportunity to provide certainty and clarity around an issue which is heavily impacting on land use planning in the Study area.

Flexibility in land use permissibility

Currently, the Shire's Scheme is not particularly flexible or consistent with respect to the land uses which may be approved in the Study area. This is likely due to the area traditionally being an agricultural and horticultural area and the objectives of the Scheme zones reflecting this.

One example of this is the 'Restaurant' and 'Chalet' land uses which are 'A' uses in the 'Rural Landscape Interest' zone, however, are not permitted in any other zones in the Study area. Given that the objectives of the 'Rural Conservation' zone are almost identical to 'Rural Landscape Interest',

it seems reasonable for these zones to have the same or similar land use permissibility's. Although the Shire has recently resolved to initiate Amendment 66 to the Scheme for the purpose of allowing these land uses to be approved in the 'Rural Agriculture' and 'Rural Conservation' zones, it is considered that more could be done to streamline and improve land use permissibility in the Study area.

In addition to improving the planning process and giving landowners more flexibility, the Study area may profit in other ways from a wider range of uses. As outlined in agri-tourism literature, traditional agricultural areas, particularly those in close proximity to metropolitan areas have benefitted from complementary agri-tourism which can add value to the agricultural area by bringing fresh business ideas, employment, and increase of investment, vibrancy, and opportunities for traditional agricultural production that might otherwise be in decline. A review of land uses in the Scheme may essentially allow landowners to build on the diversity of uses occurring in the area without a long and uncertain approval process.


Coordinate with DoP regarding 'Water Catchments' reservation

If diversification into agri-tourism land uses is to be promoted in the Study area it is considered essential that land use and development applications are subject to a streamlined and consistent approvals process. For this reason it is considered appropriate to request that the DoP also undertake a review of MRS zones and reserves relating to the Study area with a view of implementing the recommendations of the MHCA Strategy. This will result in the MRS zoning of the Study area being consistent with other drinking water source areas in Perth metropolitan area where a clear framework exists to guide development approval. In particular, adjustment of the MRS 'Water Catchment' reserve to exclude privately owned P2 land will result more certainty for landowners in these areas as there will be less need to refer applications to the DoP and DoW for comment or determination.

Subdivision

Intensification and even urbanisation of rural areas has occurred and is being planned for several locations in the Perth Metropolitan area. The situation in the Kalamunda Hills Rural area, however, is vastly different to most of these locations due to the unique environmental characteristics relating to the area such as high quality soils and water reserves. It is these environmental attributes which will ultimately prevent a whole of government approach being taken to strategically plan for the urbanisation of the area as occurred in other areas such as East Wanneroo

There was overwhelming support from submitters for further subdivision to occur in the Study area. Although these submitters had extremely valid reasons why subdivision should be permitted to occur, these reasons did not address the concerns of the State Government regarding the protection of



agricultural and water resources in the Study area. Furthermore, submitters are seeking to subdivide land due to the reduced economic viability of orcharding in the area, rather than the inability of the land to sustain production. Until such time that it can be demonstrated that the land in the area is not productive, it is unlikely that DAFWA will reconsider its position. Based on this, it is considered that subdivision in the Study area is not a viable option at this point in time.

10. CONCLUSION AND RECOMMENDATIONS

Conclusion

Land owners in the Kalamunda Hills Rural area have historically been producers of vegetables, citrus fruit, and more recently stone and pome fruit. In the past few decades the region has experienced a decline in productivity based on changes in climate, economic factors and changes in family structures.

Some of the challenges facing traditional orchardists in the Study area relate to the increasing costs of production, including start-up costs, labour, machinery, petrol, electricity, and other inputs into the growing industry. Availability of water has also been reduced and chemicals to alleviate risk to crops are becoming unavailable to the horticulturalists. Furthermore, the market prices for stone fruit, apples, pears, and other produce have decreased and tend to be very sensitive to fluctuations of the market.

As a result of these increasing challenges, there has been a steady flow of requests from landowners to the Shire for land use planning changes in the Area. The Shire has prepared the current Hills Rural Study for the purpose of addressing these requests by thoroughly understanding land use, agricultural, environmental, economic and social trends relating to the Study area, so that opportunities can be identified and informed decisions made regarding land use planning in the Hills Rural area.

The Study incorporates a comprehensive review of strategic and statutory planning documents relating to the Study area; a comprehensive contextual investigation relating to the land uses, demographics, environment and infrastructure of the Study area; the findings of an economic development discussion paper relating to the Study area; and an analysis of over 300 submissions on the draft Hills Rural Study from both the public and State Government Agencies.

The findings of the Study can be summarised as follows:

- The area of land under agricultural production in the Study area has declined 22% since the 1980s;
- For various reasons the current economic viability of orcharding in the Study area is in declines;
- Landowners in the Study area are struggling. Many orchardists are aging and properties are becoming too expensive and difficult to maintain;
- Landowners wish to remain in the Study area and pass land onto their children, however, it

is not possible to subdivide and current property prices make purchasing land prohibitive for younger people;

- Establishing new orchards when economic returns are so unreliable.
- The vast majority of landowners in the Study area are supportive of some form of subdivision being permitted in the area in the future;
- The majority of submitters feel that it is too late for economic development initiatives to be explored as a means of improving the financial situation for growers;
- Many submitters were supportive of agri-tourism and view the area as the next Swan Valley;
- The Study area contains high quality agricultural land and is a drinking water source area. This is recognised by State Government agencies and is protected by State Planning Policy. In particular, it is considered that subdivision of the area would detrimentally impact the agricultural productivity of the land;
- The majority of relevant State Government Agencies are not supportive of subdivision in the Study area, a position which is at odds with the public at large. The State is concerned with protecting the land and environment;
- Bushfire threat is a major issue in the Study area and is likely to restrict future developments;
- The State is generally supportive of making changes to the Scheme which may result in more flexibility for landowners on the basis that agricultural and water resources are not adversely effected; and
- The Shire can take example from other regions such as Shire of Augusta-Margaret River and Hawkesbury Harvest when considering agri-tourism development in the Study area.

Based on the above, this Study contains three recommendations which are considered to represent implementable actions aimed at facilitating a better balance between the conflicting priorities in the area such as protecting the productivity of agricultural land and the quality of drinking water resources, increasing the flexibility of land uses and development for traditional growers, and protecting of the rural amenity of the area.

Review of Study Objectives

In concluding the Hills Rural Study, it is considered important to evaluate how the findings of the Study reflect on the Study's original objectives:

1. To allow traditional growers more flexibility in potential uses

Among the final recommendations of this Study it is being recommended that work commence on Scheme Amendment to rationalise the rural zoning of the area, and permit new land uses to be approved on land within the Study area, especially 'agri-tourism' land uses. This idea has already received a relative level of support from State Government Agencies, and it is considered that it will ultimately provide traditional growers and other land owners with the ability to diversify the activities

undertaken on their land.

2. To encourage additional land uses ancillary to the primary horticultural production

The Study is not directly able to 'encourage' additional land uses to be undertaken on land within the Study area. Notwithstanding this, the Scheme Amendment outlined in relation to Objective 1 above will ultimately allow for new land uses, in particular 'agri-tourism' land uses to be approved.

3. To consider the potential for future subdivision in the area

The Study has revealed that progressing planning to facilitate subdivision of the Study area would compromise two major State Government objectives for the area. The Study area is constrained by the fact that it is known to be of high agricultural potential and a drinking water resource, the State Government will not consider reclassification of the area on the basis that its objectives for the area in relation to agriculture and drinking water are not likely to change in the near future.

4. To review the current zoning in the area

See comments relating to objective 1 above.

5. To create incentives and support horticultural production in the area

The Study has revealed that there is little community support for the development of economic initiatives aimed at diversifying and improving the viability of agriculture/horticulture activities in the Study area. The public also expressed little support for collaborative action between the grower's community and the government. Notwithstanding this, Shire staff are recommending that the Shire commit to supporting landowners with developing and implement such initiatives if such support is requested.

6. To protect the rural character of the area through landscape protection

The Study has revealed that although a large portion the community wish for subdivision of the area to be possible, retention of the rural character of the area is a priority for the majority of the community. Amendments to land use permissibility's in the area in accordance with Objective 1 above will need to take this into account so that new infrastructure and activities do not negatively alter the character of the area.

7. To protect the quality of water

The Study has once again highlighted that subdivision of rural lots to less than 4 hectares is incompatible with P2 water resource areas in accordance with SPP 2.7. This is just one of the reasons that implementation of Recommendation 3 of the draft Study is not being recommended in this final version of the Study. It had also been identified that some of the recommendations regarding

drinking water source protection contained in the MHCA Strategy have not been implemented and it is likely that this will be explored further at such time that a review of zoning in the Study area occurs.

Final Recommendations

Final Recommendation 1

Commit to supporting landowners in the Kalamunda Hills Rural area with developing and implementing economic development initiatives aimed at diversifying and improving the viability of agriculture/horticulture activities. This support may occur by way of Councillor and staff involvement, liaising with State Government Departments, assisting with obtaining grants and research assistance, or other means of support deemed appropriate.

Final Recommendation 2

Commence a Local Planning Scheme 3 Amendment for the purpose of:

- a) Rationalising rural zones in the Study area;
- b) Introducing new permissible land uses to rural zones in the Study area which may increase land use flexibility for land owners; and
- c) Introducing a new 'Priority Agriculture' zone over land which is deemed to be of State, regional or local significance for food production purposes, due to its collaborative advantage in terms of soils, climate, water (rain or irrigation) and access to services, in accordance with *Planning Policy 2.5 – Land Use Planning in Rural Areas*, and the WAPC's *Rural Planning Guidelines 2014*.

Final Recommendation 3

Write to the WAPC and the DAFWA to:

- a) Advise that the Shire acknowledges their positions regarding further subdivision in the Kalamunda Hills Rural area;
- b) Request that the DAFWA initiate a study into the agricultural productivity of the area for the purpose of assisting the Shire to delineate the boundaries of a new 'Priority Agriculture' zone in accordance with the WAPC's *Rural Planning Guidelines 2014*; and
- c) The Shire will reconsider options (2) through (7) of the Draft Hills Rural Studu after the boundaries of the Priority Agriculture Zone have been determined.

11. IMPLEMENTATION, MONITORING AND REVIEW

Implementation

Final Recommendation 1

Implementation of Recommendation 2 will only occur if and when landowners in the Study area approach the Shire with a view of developing initiatives aimed at diversifying and improving the viability of agriculture/horticulture activities in the Hills Rural Study area. The exact way in which the Shire assists landowners will be determined on a case by case basis, however, may include Councillor and staff involvement and/or workshopping, accessing grants, the undertaking of professional services by appropriately qualified staff and connecting landowners to State Government Departments and advocating on their behalf.

Final Recommendation 2

This recommendation will be implemented through a comprehensive review of the current land zoning and associated land use permissibility's of the area in accordance with the Scheme. This review will inform a Scheme amendment for the Study area to potential alter relevant zoning, provisions and land use permissibility's.

Final Recommendation 3

This recommendation will be implemented by way of a formal letter being written to the WAPC and DAFWA. A copy of the final Hills Rural Study will also be provided for information.

Monitoring and Review

The Hills Rural Study should be reviewed five years after the Scheme Amendment identified in Recommendation 2 is implemented to assess ongoing trends, and to determine what effect the implementation of the Study recommendations has had on the area.

References

- Barbieri, C., and E. Mahoney. 2009. "Why is diversification an attractive farm adjustment strategy? Insights from Texas farmers and ranchers." *Journal of Rural Studies* 25 (1): 58-66.
- Barbieri, C., E. Mahoney, and L. Butler. 2008. "Understanding the Nature and Extent of Farm and Ranch Diversification in North America." *Rural Sociology* 73 (2): 205-229.
- Barbieri, C., and C. Valdivia. 2010. "Recreation and agroforestry: Examining new dimensions of multifunctionality in family farms." *Journal of Rural Studies* 26 (4): 465-473.
- Bélisle, F. J. 1983. "Tourism and food production in the Caribbean." *Annals of Tourism Research* 10 (4): 497-513.
- Caballé, A. 1999. "Farm tourism in Spain: a gender perspective." *GeoJournal* 48 (3): 245-252.
- Cohen, E. 1984. "The Sociology of Tourism: Approaches, Issues, and Findings." *Annual Review of Sociology* 10: 373-392.
- Everett, S., and C. Aitchison. 2008. "The Role of Food Tourism in Sustaining Regional Identity: A Case Study of Cornwall, South West England." *Journal of Sustainable Tourism* 16 (2): 150-167.
- Fisher, D. G. 2006. "The Potential for Rural Heritage Tourism in the Clarence Valley of Northern New South Wales." *Australian Geographer* 37 (3): 411-424.
- Fleischer, A., and A. Tchetchik. 2005. "Does rural tourism benefit from agriculture?" *Tourism Management* 26 (4): 493-501.
- Gill J. 2004. Water in a drying climate – presentation by Dr Jim Gill, Water Corporation, at 'Our Water Future' – Water Symposium 20 September 2004. Perth Convention Centre.
- Gunn, C. A. 1988. *Tourism planning*. 2nd ed. New York: Taylor & Francis.
- Hedde, E.M., Loneragan, O.W. and Havel, J.J. 1980. "Vegetation Complexes of the Darling System". In Atlas of Natural Resources, Darling System, Western Australia. Department of Conservation and Environment, Perth, Western Australia. pp. 37 - 72.
- Ilbery, B. W. 1991. "Farm diversification as an adjustment strategy on the urban fringe of the West Midlands." *Journal of Rural Studies* 7 (3): 207-218.

King, P.D. and Wells, M.R. 1990. Darling Range Rural Land Capability Study. Land Resource Series No. 3. Department of Agriculture and Food Western Australia.

Mathieson, A., and G. Wall. 1982. *Tourism: economic, physical, and social impacts*. Edited by G. Wall. London: London: Longman.

McGehee, N. G. 2007. "An Agritourism Systems Model: A Weberian Perspective." *Journal of Sustainable Tourism* 15 (2): 111-124.

Nickerson, N. P., R. J. Black, and S. F. McCool. 2001. "Agritourism: Motivations behind Farm/Ranch Business Diversification." *Journal of travel research* 40 (1): 19-26.

Ollenburg, C., and R. Buckley. 2007. "Stated Economic and Social Motivations of Farm Tourism Operators." *Journal of travel research* 45 (4): 444-452.

Phillip, S., C. Hunter, and K. Blackstock. 2010. "A typology for defining agritourism." *Tourism Management* 31 (6): 754-758.

Saxena, G., G. Clark, T. Oliver, and B. Ilbery. 2007. "Conceptualizing Integrated Rural Tourism." *Tourism Geographies* 9 (4): 347-370.

Schneider, S. S. 1993. "Advantages and disadvantages of tourism to an agricultural community." *Economic Development Review* 11 (4): 76.

Sharpley, R. 2007. "Flagship Attractions and Sustainable Rural Tourism Development: The Case of the Alnwick Garden, England." *Journal of Sustainable Tourism* 15 (2): 125-143.

Tew, C., and C. Barbieri. 2012. "The perceived benefits of agritourism: The provider's perspective." *Tourism Management* 33 (1): 215-224.

Turnock, D. 2002. "Prospects for sustainable rural cultural tourism in Maramureş, Romania." *Tourism Geographies* 4 (1): 62-94.

Van Gool, D. Tille, P. and Moore, G. 2005. *Land Evaluation Standards for Land Resource Mapping: Guidelines for assessing land qualities and determining land capability in south-west Western Australia*. Third Edition Resource Management Technical Report 298. Department of Agriculture and Food Western Australia.

Wilson, G. A. 2008. "From 'weak' to 'strong' multifunctionality: Conceptualising farm-level multifunctional transitional pathways." *Journal of Rural Studies* 24 (3): 367-383.