

CITY OF SWAN

# Local Rural Planning Strategy

2016







#### Document Control

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# Executive Summary

The current strategic framework in the City of Swan (the City) is made up of a suite of separate planning documents, with varying degrees of consent status and statutory weight. Many of the areas within the City previously addressed in rural land use strategies have been rezoned for urban purposes or expanded, particularly in growth areas facing development pressure along the urban rural interface and in those specific areas identified in State growth strategies (such as Bullsbrook and Gidgegannup). A raft of new planning legislation and policy at the State level has since been developed and released, and baseline information regarding specific planning matters is available. A new strategy is required to address these changes.

This Local Rural Planning Strategy forms a component of the Local Planning Strategy, and has been prepared to establish and guide the future land use planning direction of rural areas of the City for the next 10 to 15 years. The Local Rural Planning Strategy reflects the relevant State, regional and local planning policies and strategies, and provides the basis for review for the City's Local Planning Scheme. The Local Rural Planning Strategy sets out the vision, aims, strategies and actions associated with issues relating to rural land use planning. The Local Rural Planning Strategy is set out in two parts; Part 1—Local Rural Planning Strategy and Part 2—Background and Context.

The Local Rural Planning Strategy is essentially a consolidated version of the current local strategies applicable within the City: the Bullsbrook Townsite and Rural Strategy; Gidgegannup Rural Strategy; Swan Hills Rural Strategy, and has regard to recent changes to the State planning framework, namely the WAPC's *State Planning Policy 2.5 'Land Use Planning in Rural Areas (2012)'* and the *Rural Planning Guidelines* and metropolitan growth strategy *Outer Metropolitan Perth and Peel Sub-regional Strategy – Directions 2031 and Beyond* (Directions 2031). The Local Rural Planning Strategy also bases objectives and strategies on other information including a Land Capability Assessment carried out by a consultant in 2012 and the *Bushfire Risk Analysis*, undertaken by the City of Swan to guide settlement planning in low risk areas.

The Local Rural Planning Strategy will be used by the City to guide the consideration of rezoning proposal, structure plan and subdivision referrals to the WAPC, and development applications. It may also assist in preparing other planning instruments such as local planning policy. In addition to the land use planning implications, the Local Rural Planning Strategy guides the City's organisational strategic planning, business planning, economic and tourism development activities as well as partnerships with State and Federal governments and the development sector.

Arising from the preparation of the City's Local Rural Planning Strategy are the following recommendations, which are illustrated on Figure 1—Strategic Plan. In addition to the strategic recommendations and measures identified in the Rural Planning Strategy Map, a spatial plan allocating rural planning precincts and land use requirements (Figure 8) is included in Section 3 of Part 1 of this report. The following strategic land use recommendations have been made for rural areas:

## Rural Land Use Strategies

### Recommendation 1

#### Coordinate Rural Settlement

- To provide functional rural living in designated precincts: where appropriate access to services, facilities and amenities can be demonstrated; bushfire risk can be adequately managed; and where environmental assets are not compromised.
- To consider rural living developments only in areas where access to services or environmental constraints do not allow for full urbanised development (limited deep sewer infrastructure), or whereby rural living development can be sufficiently connected to a reticulated water supply (or fit-for-purpose water supply) and where bushfire risk above acceptable limits and significant biodiversity values are protected.
- Consider rural living arrangements where minimal impact to soil loss through water erosion, due to the clearing requirement for firebreaks, building envelopes and maintaining Bushfire Protection Zones around buildings and structures, can be adequately demonstrated.

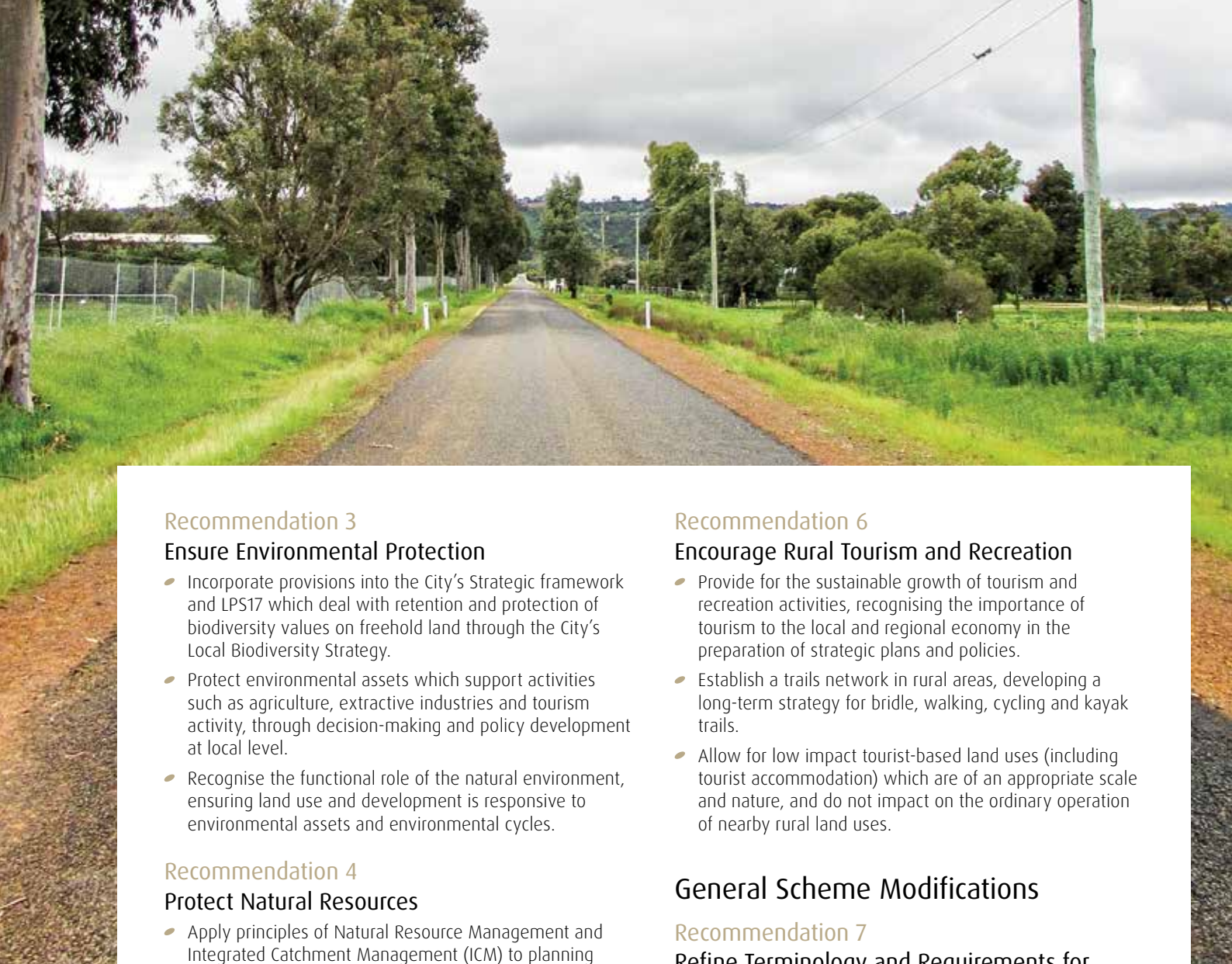
### Recommendation 2

#### Protect Primary Production

- To protect the productive capacity of agricultural rural land, promoting sustainable agricultural production and provide an emphasis on land management practices rather than tight land use controls.
- Identify potential precinct areas of 'Local Priority Agriculture', following an assessment of land capability of the following factors:
  - versatile and capable land;
  - existing patterns of agricultural land use;
  - physical infrastructure and access to market;
  - water resource and availability;
  - economic significance;
  - conflict with surrounding and anticipated land uses;
  - land for expansion; and
  - environmental impacts.
- Promote sustainable agricultural production and progressive forms of primary production, including cluster farming, agriculture co-operatives and specialist forms of agriculture and diversification of more traditional farming systems.
- Ensure the expansion, intensification and diversification of primary agricultural production is within the sustainable limits of catchments and sub-catchments, supporting community-based water allocation measures and encouraging competitive advantages where enhancements to natural resources can be made.
- Utilise best practice land capability and soil mapping (and advice from the Department of Agriculture and Food) to regulate suitability of subdivision for rural land requiring detailed agronomy and hydrology reports to justify agricultural and environmental sustainability.
- Conversion of land from priority agriculture to other uses must be appropriately planned through a strategy, scheme (or structure plan) where such conversion is required as a matter of State significance (i.e. Industrial land supported by the Economic and Employment Lands Strategy (EELS)).
- Assess rural subdivisions, including rural survey strata applications, development applications and structure plans based on proportional agricultural productivity rather than through prescriptive planning provisions (i.e. allocating minimum lot sizes) as the basis for agricultural land capability, and to demonstrate agricultural productivity benefits and productive capacity prior to supporting rural land fragmentation.







### Recommendation 3

#### Ensure Environmental Protection

- Incorporate provisions into the City's Strategic framework and LPS17 which deal with retention and protection of biodiversity values on freehold land through the City's Local Biodiversity Strategy.
- Protect environmental assets which support activities such as agriculture, extractive industries and tourism activity, through decision-making and policy development at local level.
- Recognise the functional role of the natural environment, ensuring land use and development is responsive to environmental assets and environmental cycles.

### Recommendation 4

#### Protect Natural Resources

- Apply principles of Natural Resource Management and Integrated Catchment Management (ICM) to planning policy and decision-making in the City's rural areas.
- Ensure decision-making and strategic planning, including scheme amendments, preparation of structure plans, and development of local planning policy considers the effective management of agriculture, extractive industries, water, tourism and natural resources.
- Through policy and decision-making, address natural resource management by retaining, restoring and managing bushland, wetland and riverine vegetation; and protecting and enhancing the quality of surface water (streams, rivers and wetlands) and groundwater.

### Recommendation 5

#### Retain and Maintain the Rural Landscape

- Apply effective development standards for areas in the city that have landscape significance.
- Conserve and enhance the benefits arising from landscape elements that form the fabric of rural parts of the City.
- Identify points of landscape significance and landscape corridors and apply development standards which seek to retain and enhance these features.

### Recommendation 6

#### Encourage Rural Tourism and Recreation

- Provide for the sustainable growth of tourism and recreation activities, recognising the importance of tourism to the local and regional economy in the preparation of strategic plans and policies.
- Establish a trails network in rural areas, developing a long-term strategy for bridle, walking, cycling and kayak trails.
- Allow for low impact tourist-based land uses (including tourist accommodation) which are of an appropriate scale and nature, and do not impact on the ordinary operation of nearby rural land uses.

## General Scheme Modifications

### Recommendation 7

#### Refine Terminology and Requirements for 'Rural Living'

- Replace existing 'Rural Living' zone with 'Rural Smallholdings' zone in LPS17 (in accordance with the Model Scheme Text) to provide a sub-set of rural living with lots ranging between 4-40 hectares in appropriate areas where an identifiable rural theme (primary production or rural pursuits) can be demonstrated, and apply relevant Scheme provisions and land use permissibility under the zoning table of the Scheme.
- In addition to minimum lot size requirements, development standards for 'Rural Smallholdings' zone are to be addressed in LPS17.
- Location of 'Rural Smallholdings' zone to be confined to 'Rural Living B' precinct in the Local Rural Planning Strategy.

### Recommendation 8

#### Introduction of Conservation Zone (with appropriate Policy)

- Introduction of a 'Conservation Zone' in the LPS17, providing for private conservation areas (separate from reserves) and related incentives for private landowners to maintain and protect biodiversity values in the City.
- Conservation Zones shall contain a minimum net area of 10 hectares of conservation classified vegetation identified in accordance with the Local Natural Area (LNA) mapping contained in the City's Local Biodiversity Strategy.

## Local Planning Policy Response

### Recommendation 9

#### Apply an Integrated Catchment Approach to Planning in Rural Areas of the City

- Apply ICM principles to planning policy formulation, through the management of land, water and related biological assets in order to achieve the sustainable and balanced use of these resources. ICM is based on the following principles:
  - Land, water and plant resources are parts of the natural ecosystem. Planning should be based on the continually changing catchment as the geographical unit rather than geopolitical boundaries.
  - Management of land and water resources must be coordinated, with decisions based on best available information.
  - Resource management can only be achieved by the informed action of users and managers of these resources.
  - A proper balance between economic development and environmental protection must be maintained.
- Planning and policy should involve the community in developing the strategic approach to integrated resource usage recognising water as the common link among resource users in a catchment. And these catchments are used as a planning unit for resource management.

### Recommendation 10


#### Bushfire Protection Measures

- Identify areas with acceptable bushfire risk for rural living, limiting rural settlement in those areas with unacceptable bushfire risk.
- Sensitive land uses in bushfire prone areas should be avoided where possible.
- Apply specific policy requirements for developments, structure plans and subdivision referrals for planning for bushfire protection. Include clause in the LPS17 for development contributions for provision of fire and emergency infrastructure in bushfire prone areas.

### Recommendation 11

#### Rural Land Use and Development Standards

- Specific development standards for rural and agricultural land uses in each precinct if not guided by Structure Plan or similar instrument, should be considered as part of a local planning policy.
- Tourism, accommodation and other ancillary land uses in rural areas should be guided by refined local planning policies.



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Identify areas with acceptable bushfire risk for rural living, limiting rural settlement in those areas with unacceptable bushfire risk.

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## List of Abbreviations

ASS	Acid Sulfate Soils
BRA	Bushfire Risk Analysis
DAA	Department of Aboriginal Affairs
DoAF	Department of Agriculture and Food
DoE	Department of Environment
DFES	Department of Fire and Emergency Services
DoP	Department of Planning
DoW	Department of Water
EELS	Economic and Employments Lands Strategy
EPA	Environmental Protection Authority
EPBC Act	Environmental Protection and Biodiversity Conservation Act 1999
EPP	Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002
GVP	Gross Value of Production
ICM	Integrated Catchment Management
LAP	Local Area Plan (formerly termed 'Place Planning Area' or 'PPA')
LBS	Local Biodiversity Strategy
LNAs	Local Natural Areas
LPA	Local Priority Agriculture
LPS17	City of Swan Local Planning Scheme 17
LRPS	Local Rural Planning Strategy
Master Plan	Bullsbrook Townsite Land Use Master Plan
MRS	Metropolitan Region Scheme
PDWSA	Priority Drinking Water Source Areas
SPP 2.4	State Planning Policy No. 2.4 'Basic Raw Materials (2000)'
SPP 2.5	State Planning Policy No. 2.5 'Land Use Planning in Rural Areas (2002)'
SPP 2.5	State Planning Policy No. 2.5 'Land Use Planning in Rural Areas (2012)'
SPP 3.4	State Planning Policy No. 3.4 'Natural Hazards and Disasters—Draft (2004)'
SPP 3.6	State Planning Policy No. 3.6 'Developer Contributions for Infrastructure (2009)'
SVP Act	Swan Valley Planning Act 1995
UWPCA	Underground Water Pollution Control Area
WAPC	Western Australian Planning Commission
WSUD	Water Sensitive Urban Design



# Part 1: Local Rural Planning Strategy

## 1. Introduction

### 1.1 Purpose of the Strategy

The Local Rural Planning Strategy (LRPS) provides the strategic guidance specifically for the future development of the City's rural areas, and provides the basis for the review of the City's Local Planning Scheme No. 17 (LPS17). In particular the LRPS sets out the vision, aims, strategies and actions associated with agricultural and natural resources, infrastructure, rural settlement, biodiversity and preservation of the rural and natural environment. The Strategy examines the social, environmental, cultural and economic issues facing the City's rural areas.

The LRPS will be used by the City to guide the consideration of rezoning proposals, structure plans, development applications, subdivision referrals to Western Australian Planning Commission (WAPC) and in the preparation of other planning instruments such as local planning policies. In addition to the land use planning implications, the LRPS will guide the City in its organisational strategic planning, business planning, economic and tourism development activities and partnerships with the State government, Federal government and the development sector.

### 1.2 Methodology

The LRPS has been prepared in accordance with the suggested format for a local planning strategy as provided for in the WAPC's *Planning Schemes Manual—Western Australian Guidance on the Format of Local Government Planning Strategies*. The LRPS was developed by the City of Swan with the assistance of Department of Planning and other State agencies, Federal government departments and the input of relevant qualified professionals.

The LRPS ties together previous studies and strategies concerning rural parts of the City of Swan with information obtained through recent analyses of land capability and land use suitability (City of Swan Rural Land Use Capability Report, Land Assessment et al., 2013) and an analysis of bushfire risks in rural and other parts of the City (Strategic Bushfire Risk Analysis, City of Swan 2014) to guide land use planning and address bushfires at the strategic level.

The strategy also addresses recent changes to the State Planning framework, specifically the gazettal of *State Planning Policy No. 2.5 'Land Use Planning in Rural Areas (2012)'* (SPP 2.5 [2012]) to consider strategic issues; protection and retention of agricultural land and other valuable resources, environmental and biodiversity issues, rural landscape and visual influences, land use conflict and the limitations of rural living settlements in peri-urban areas.

### 1.3 Scope of the Strategy

The LRPS is set out to include:

- The relationship between strategic planning at the Local Government, State and Regional level;
- A description of the key characteristics of the City's rural areas, its regional context and major planning issues;
- The strategic directions which the City is seeking to pursue within its rural lands;
- Objectives on key topics outlining the Strategic direction of the City in the matter, and the Strategies and Actions it will undertake to implement the strategic direction;
- Identification of Rural Strategy Precincts and appropriate provisions, outlining the purpose and objectives for each precinct and criteria for subdivision/development; and
- Recommendations to the planning framework arising from land use planning issues identified in rural areas.

### 1.4 Statutory Context

As a Council adopted strategy, this document is to be taken into consideration by the City when making planning decisions and will carry significant weight in planning appeals. Changes to the Strategy require public advertising and adoption by Council before taking effect.

### 1.5 Study Area

The Strategy's study area encompasses the City of Swan's rural land, which is any land not currently zoned 'Urban' under the Metropolitan Region Scheme (MRS). All rural zoned lands will be covered by the LRPS, including the following zones under LPS17: General Rural; Landscape; Rural Residential; Rural Living; Swan Valley Rural; Special Rural; and Resource zone. The Strategy also covers other rural features such as national parks (Walyunga, Avon Valley and John Forrest National Parks) and the townsites of Bullsbrook and Gidgegannup excluding areas covered by existing strategic plans (such as the Bullsbrook Townsite Land Use Master Plan (Master Plan)).

## 1.6 Summary of Recommendations

A number of strategies and actions are identified in this Strategy; recommendations are directed towards improvements to the local planning framework for precinct objectives of prescribed areas. The recommendations arising from the preparation of the Local Rural Planning Strategy are outlined in more detail in the Executive Summary and are summarised as follows:

### **Rural Land Use Strategies:**

- Recommendation 1—Coordinate Rural Settlement
- Recommendation 2—Protect Primary Production
- Recommendation 3—Ensure Environmental Protection
- Recommendation 4—Protect Natural Resources
- Recommendation 5—Retain and Maintain the Rural Landscape
- Recommendation 6—Encourage Rural Tourism and Recreation

### **General Scheme Modifications:**

- Recommendation 7—Refine Terminology and Requirements for 'Rural Living'
- Recommendation 8—Introduction of Conservation Zone (with appropriate Policy)

### **Local Planning Policy Response:**

- Recommendation 9—Apply an Integrated Catchment Approach to Planning in Rural Areas of the City
- Recommendation 10—Bushfire Protection Measures
- Recommendation 11—Rural Land Use and Development Standards

## 2. Strategies and Actions

The LRPS establishes strategies and actions based on an assessment of information and key issues which are explained in greater detail in following parts of this strategy.

Part 2 of the Strategy deals with the context and background for land use planning considerations in the City's rural areas, followed by an analysis of key issues. Objectives for land use strategies and actions outlined in Part 1 have been grouped together based on key issues identified in Part 2 of the strategy. These Strategies and Actions are identified under the following nine objectives and should be read in conjunction with Figures 1–8:

- Protection of Agricultural Land
- Effective Land and Resource management
- Environmental Protection
- Coordinate Rural Settlement
- Maintain Rural Landscape
- Minimise Land Use Conflict
- Promote Rural Tourism and Recreation
- Protection of Heritage
- Place Specific Objectives (Gidgegannup, Bullsbrook, Upper Swan and Swan Valley).



STRATEGIC PLAN – GENERAL RURAL PLANNING OBJECTIVES AND SIGNIFICANT STRATEGIES

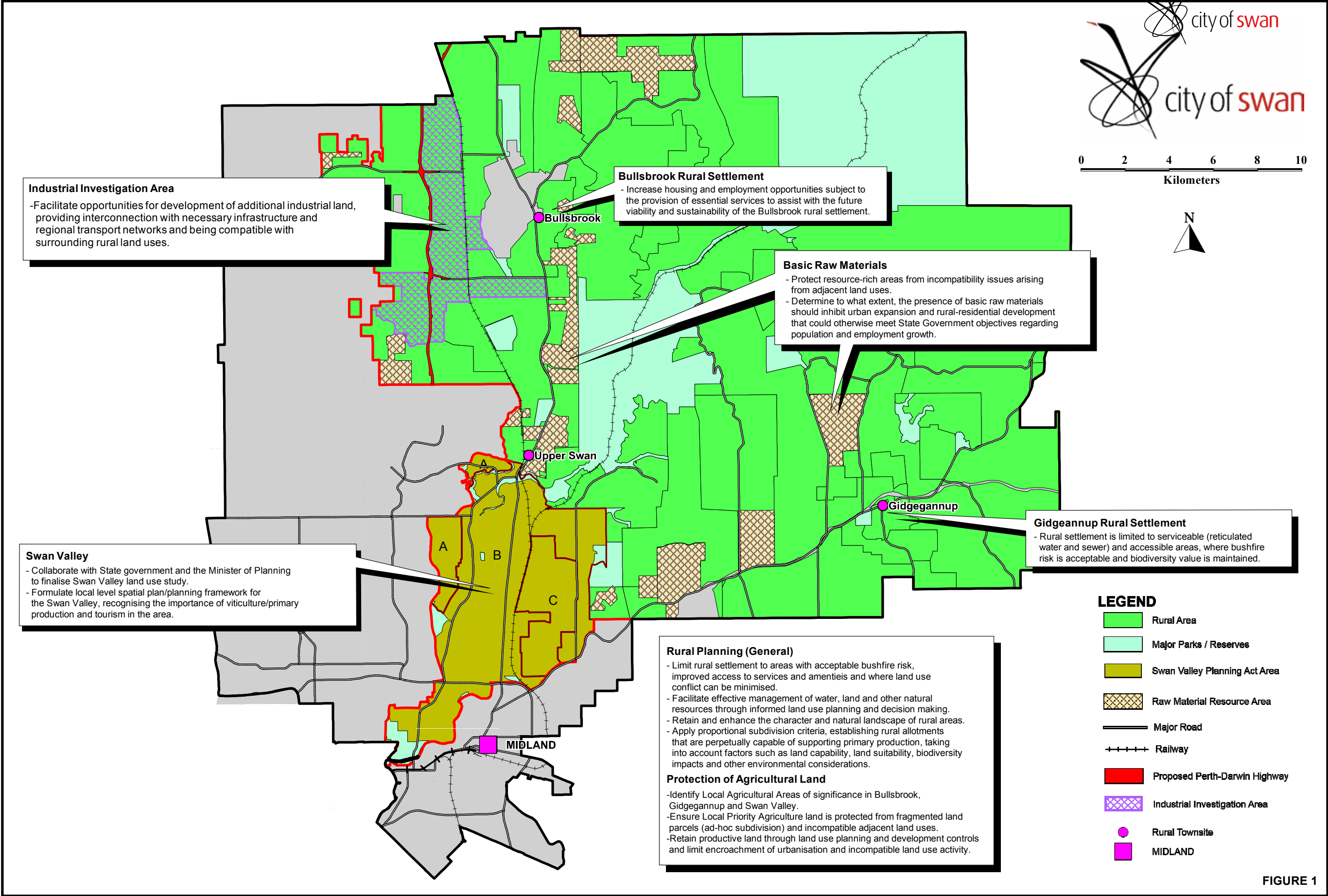
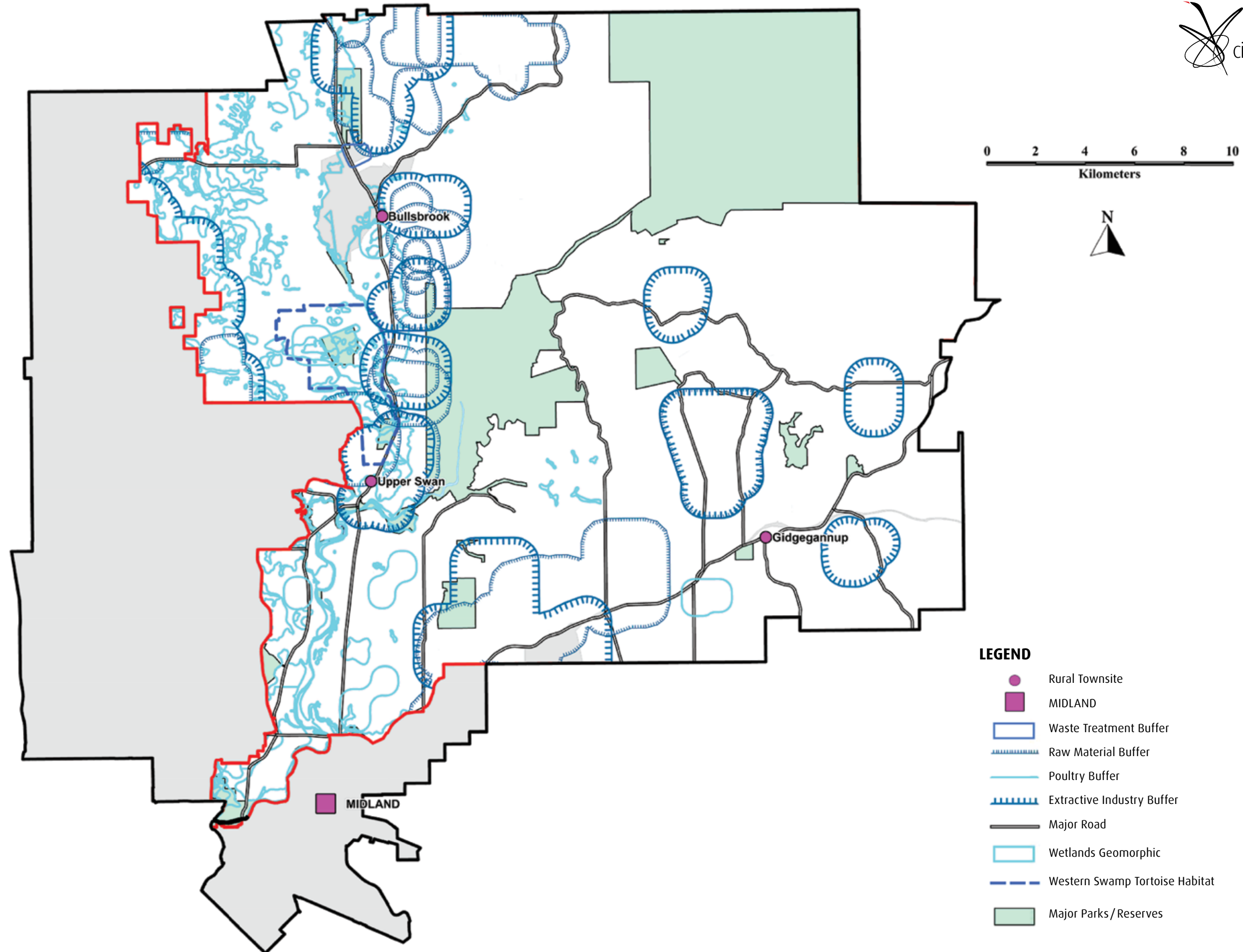


Figure 1. Strategic Plan

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Figure 1. Strategic Plan



#### LEGEND

- Rural Townsite
- MIDLAND
- ▬ Waste Treatment Buffer
- - - Raw Material Buffer
- ▬ Poultry Buffer
- - - Extractive Industry Buffer
- ▬ Major Road
- ▭ Wetlands Geomorphic
- - - Western Swamp Tortoise Habitat
- ▭ Major Parks/Reserves

Figure 2. Rural Constraints

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Figure 2. Rural Constraints



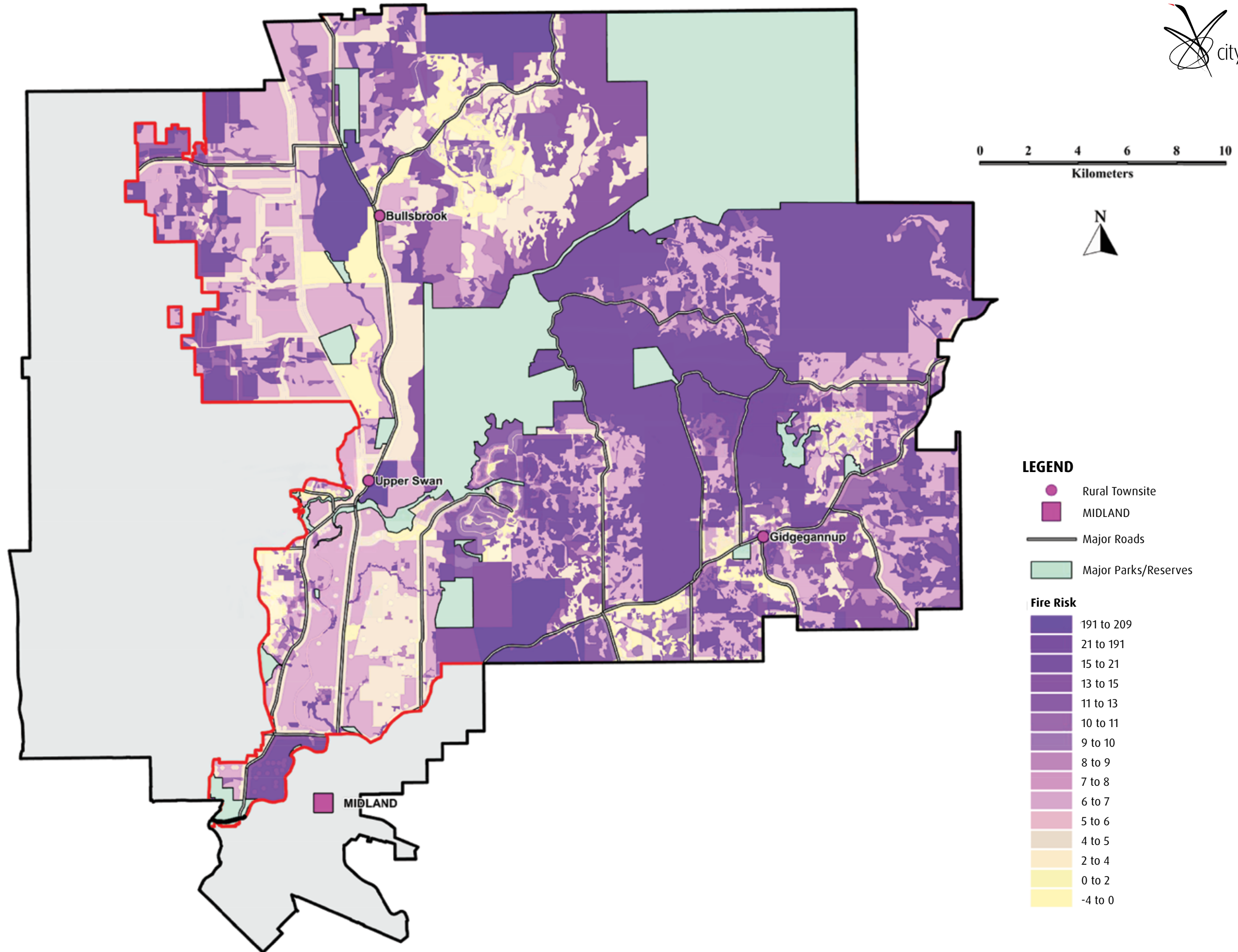


Figure 3. Bushfire Risk Constraints

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Figure 3. Bushfire Risk Constraints

0 2 4 6 8 10  
Kilometers



#### LEGEND

- Rural Townsite
- MIDLAND
- Major Road
- Major Watercourse
- Stream
- Catchment
- Major Parks/Reserves

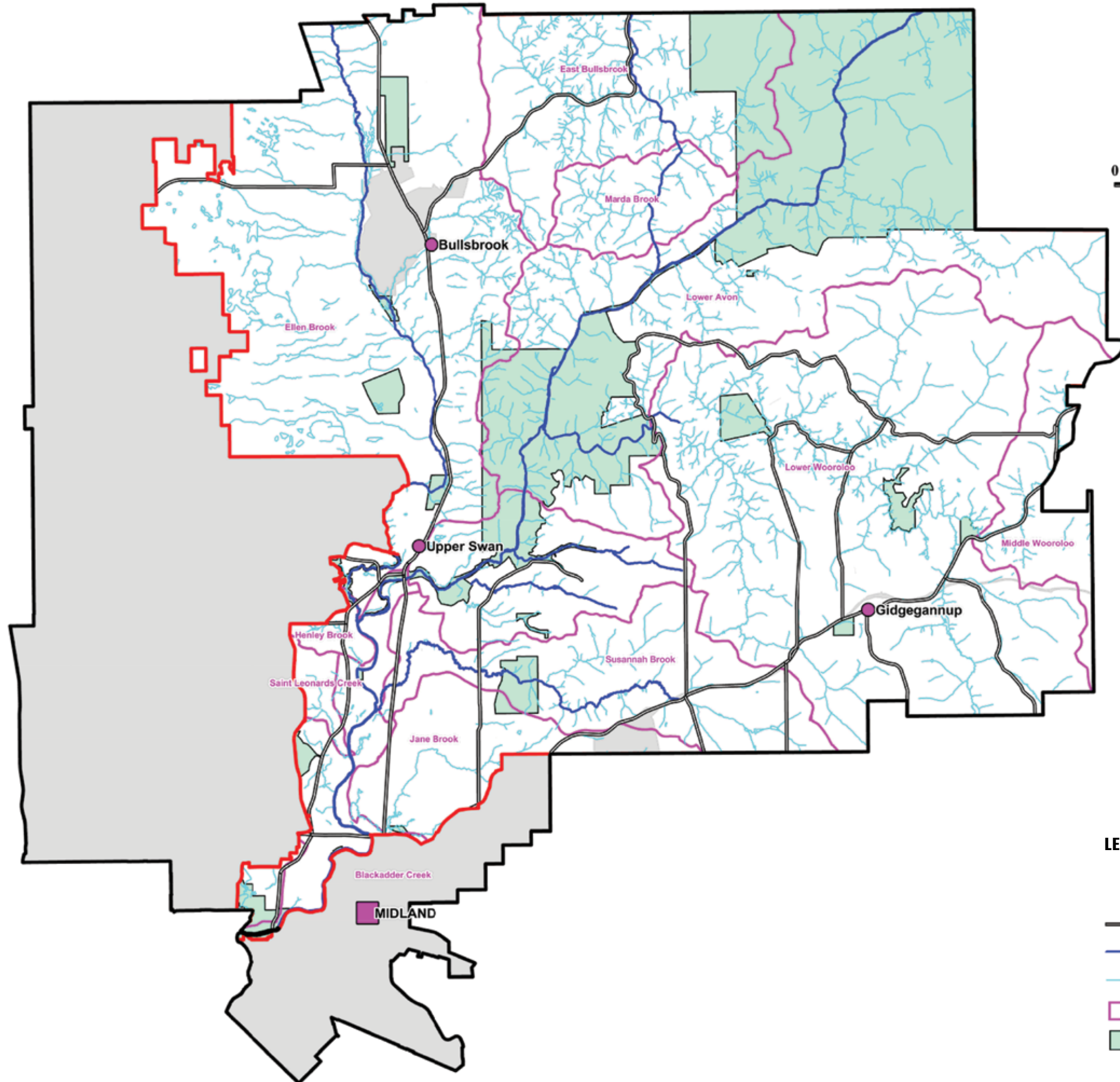


Figure 4. Hydrology



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Figure 4. Hydrology

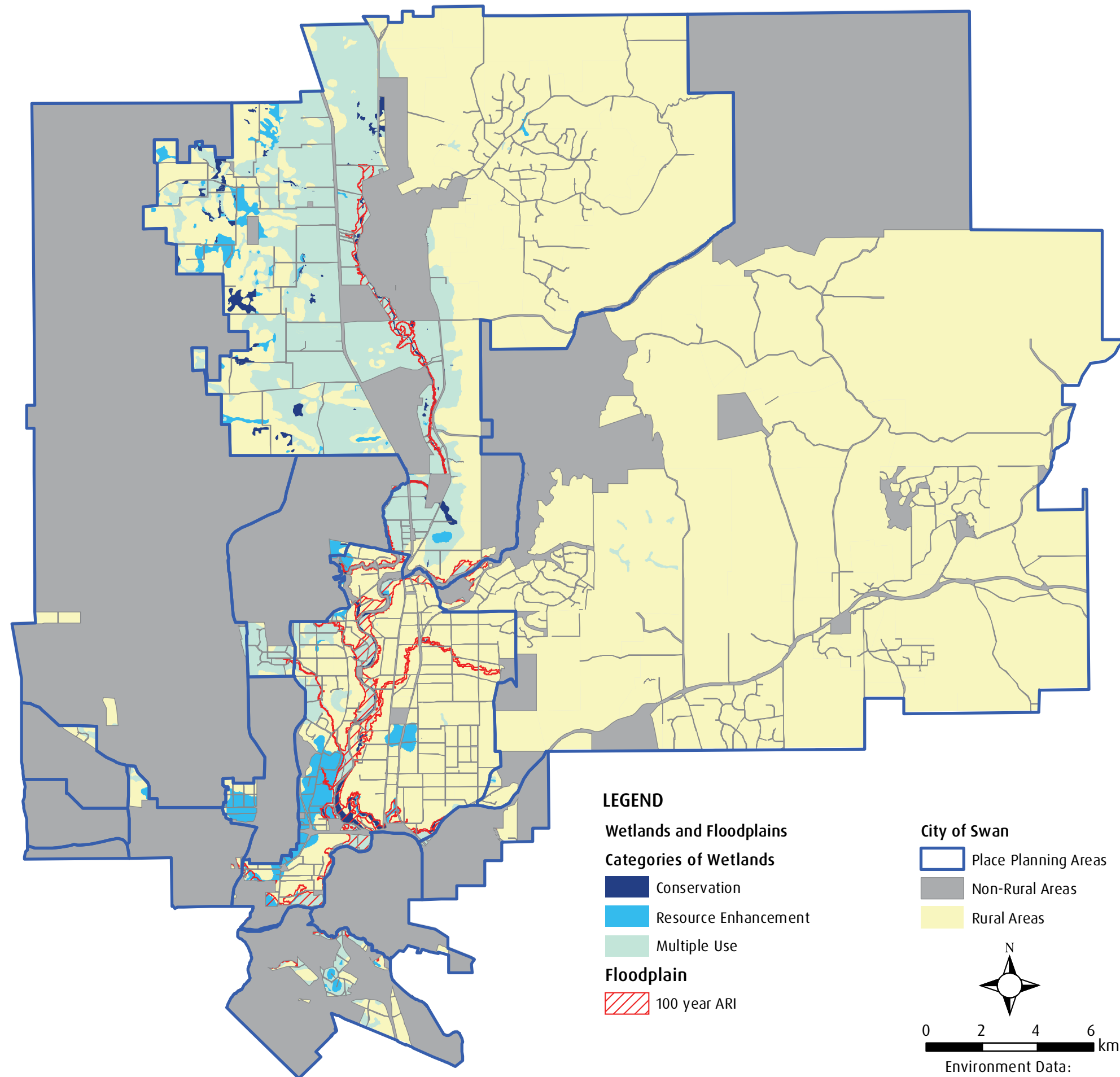
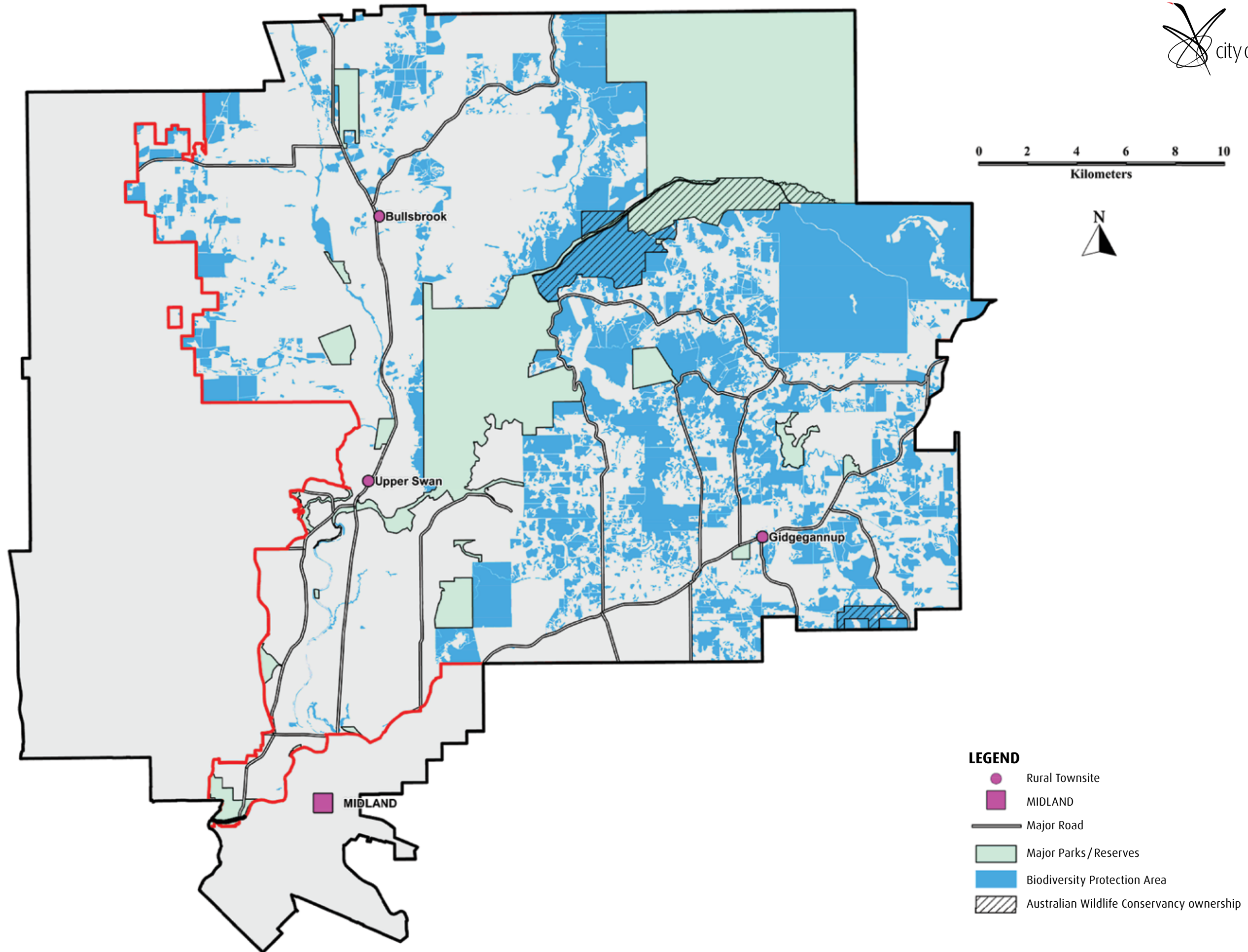


Figure 5. Wetlands and Floodplains

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Figure 5. Wetlands and Floodplains





- LEGEND**
- Rural Townsite
  - MIDLAND
  - Major Road
  - Major Parks/Reserves
  - Biodiversity Protection Area
  - ▨ Australian Wildlife Conservancy ownership

Figure 6. Biodiversity Protection Areas and Major Parks and Reserves

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Figure 6. Biodiversity Protection Areas and Major Parks and Reserves

0 2 4 6 8 10  
Kilometers

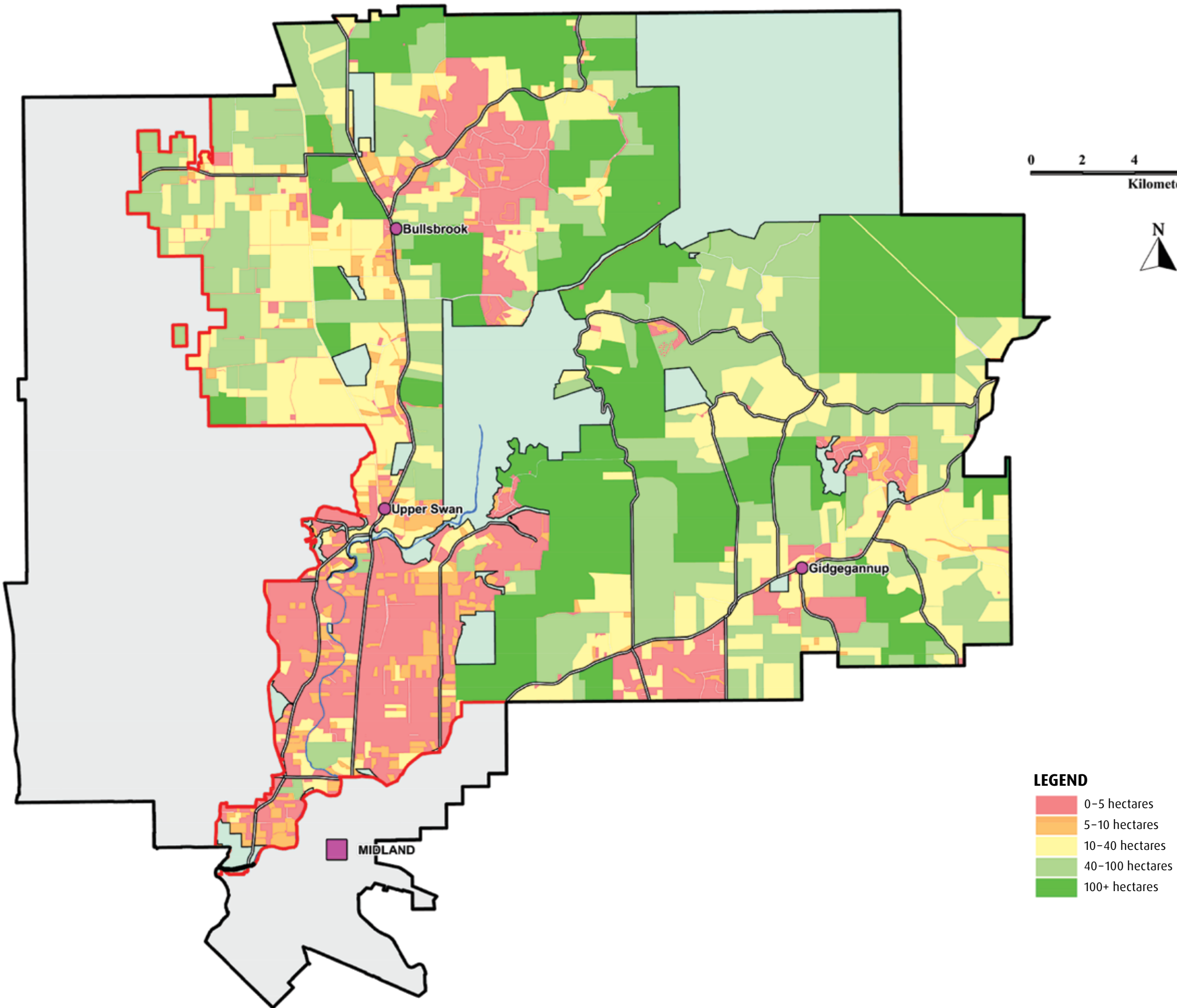


Figure 7. Rural Lot Sizes



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Figure 7. Rural Lot Sizes



## 2.1 Protection of Agricultural Land

Strategies	Actions
1. Protect rural areas which can support agricultural land use and primary production, recognising the economic, social and historical significance of primary industries in the City.	<ul style="list-style-type: none"> <li>a) Identify Local Priority Agriculture areas of significance in accordance with the Rural Precinct Plan.</li> <li>b) Limit the encroachment of non-agricultural or incompatible land uses which may conflict with Local Priority Agriculture areas of significance.</li> <li>c) Apply proportional lot size requirements for rural land use precincts, based on the range of factors influencing agricultural outputs (water supply, soil type, phosphorus-export, buffer requirements and existing environmental and/or biodiversity constraints). See Part 1 (Section 3.2–3.5) for lot size criteria.</li> <li>d) Establish performance based land use and subdivision criteria in the LPS17 and/or local planning policy to guide proportional minimum lot size requirements.</li> <li>e) Ensure any proposed lots in a rural subdivision can effectively be supplied by a reliable and sustainable water supply in perpetuity for agricultural irrigation, domestic water supply and fire management purposes.</li> <li>f) Limit the fragmentation of rural land, particularly in identified Local Priority Agriculture Areas, by requiring applicants to demonstrate how proposed development and subdivision retains satisfactory areas of arable land that can reasonably support a commercially viable agricultural, viticulture, horticultural or related activity, and limiting non-agricultural use of such land.</li> <li>g) Require land to be appropriately rezoned prior to the City considering supporting subdivision and development for Intensive Agriculture and Rural Pursuits.</li> <li>h) Ensure any proposed lots are of a sufficient size and orientation as to be economically environmentally sustainable in supporting agricultural enterprise.</li> <li>i) Each lot must contain sufficient arable land of 'High' to 'Very High' capability for Intensive Agriculture and agricultural pursuits within Rural Smallholdings, and be suited to the intended agricultural purpose on advice from the Department of Agriculture.</li> </ul>
2. Create opportunities for new forms of agriculture and potential new enterprises in rural areas.	<ul style="list-style-type: none"> <li>a) Establish a Rural Smallholdings zoning in the LPS17 to allow lots of 4–40 hectares only where it can be demonstrated the subject land can accommodate viable and sustainable agricultural and/or rural enterprise.</li> <li>b) Consider alternative systems for primary production such as cluster farming and agricultural cooperatives in development of future land use planning policy, subdivision assessment and development applications.</li> <li>c) Allow for subdivision and development of identified Rural Smallholdings land where there is a demonstrable opportunity to diversify or intensify productivity of the land.</li> </ul>
3. Foster and facilitate the establishment of new sustainable rural industries or activities including tourism in order to broaden the economic base of the City.	<ul style="list-style-type: none"> <li>a) Review LPS17 provisions to ensure activities or industries which, in its opinion, are complementary to agricultural and viticultural areas are permissible.</li> <li>b) Development of value adding rural industries, support services and tourism will be encouraged provided that: <ul style="list-style-type: none"> <li>i) Appropriate measures are taken to minimise potentially negative environmental and social impacts;</li> <li>ii) Adequate infrastructure is available or can be reasonably provided;</li> <li>iii) The scale of the development does not have a negative impact on the character of the locality; and</li> <li>iv) The land use is permissible under the provisions of the LPS17.</li> </ul> </li> </ul>

## 2.2 Effective Land and Resource management

Strategies	Actions
<b>1. Promote the sustainable use and management of natural resources (land and water resources) in the City of Swan's rural areas and the surrounding region.</b>	<ul style="list-style-type: none"> <li>a) Adopt ICM approaches to rural policy and land use planning controls by:               <ul style="list-style-type: none"> <li>i) Recognising land and water (surface and ground) resources which contribute to the City's natural ecosystem;</li> <li>ii) Adopting land management approaches based on catchments as the geographical unit rather than geopolitical boundaries, considering the changing nature of catchments and adapt management of these catchments accordingly;</li> <li>iii) Coordinating the management of land and water resources based on current, best information;</li> <li>iv) Providing users and managers of natural resources with information and mapping so that adequate management of resources can be achieved;</li> <li>v) Working with State Government agencies, the community and other stakeholders to produce Catchment Management Strategies for the management of natural resources in the City;</li> <li>vi) Utilising and improving land, vegetation, soil and cultural mapping to inform natural resource management and decision-making;</li> <li>vii) Promoting the effective development of ICM strategies and plans to effectively manage and protect natural resources of the City; and</li> <li>viii) Facilitating and promoting community awareness and encouraging ICM activities amongst the rural community.</li> </ul> </li> </ul>
<b>2. Enhance and assist the beneficial use of watercourses, wetlands and other water resources in the City's rural areas.</b>	<ul style="list-style-type: none"> <li>a) Promote the efficient use and re-use of water in agricultural and other rural land uses.</li> <li>b) Adopt Water Sensitive Urban Design (WSUD) principles to stormwater management in the City's rural areas, addressing objectives of water flow control, water quality improvement, flood protection, erosion, nature conservation, and enhancement of recreational opportunities.</li> <li>c) Promote nutrient management and the use of nutrient management plans when determining planning applications.</li> <li>d) Ensure nutrient levels in watercourses, waterways and other riparian systems are maintained at acceptable levels through the requirement of water management strategies and as determined through the 'water quality' action of the City's Water Action Plan.</li> <li>e) Adopt water sensitive design principles when considering structure plans and giving advice to the WAPC regarding subdivision referrals.</li> <li>f) Create and enhance opportunities for recreation that capitalise from water resources within the City.</li> </ul>
<b>3. Promote a planning framework for assessing the sustainability of rural land uses and land management practices in rural areas.</b>	<ul style="list-style-type: none"> <li>a) Apply the requirements of the City's Biodiversity Strategy in rural areas when assessing development applications, land use, structure plans and when providing subdivision referral advice to the WAPC.</li> </ul>
<b>4. Protect basic raw materials and mineral resources from incompatible and sensitive land uses.</b>	<ul style="list-style-type: none"> <li>a) Ensure areas identified under the State Planning Policy No. 2.4 'Basic Raw Materials (2000)' (SPP 2.4) are protected.</li> <li>b) Ensuring buffer requirements prescribed under EPA's guidance are sufficiently maintained.</li> <li>c) Ensure appropriate staging and rehabilitation of extractive industry operations, to ensure post-extraction areas are restored to accommodate viable agricultural and rural land uses, post-extraction.</li> <li>d) Ensure any future urban expansion or intensification of sensitive land uses considers the buffer requirements of existing and future extraction areas.</li> </ul>



## 2.3 Environmental Protection

Strategies	Actions
1. Encourage rural settlement and land uses in areas of existing cleared land, and where high conservation value areas containing threatened, endangered or vulnerable flora and fauna are not unreasonably affected.	<ul style="list-style-type: none"> <li>a) Identify through the precincts of the LRPS, preferred areas of rural living, considering the impact these types of uses have on extensively vegetated areas.</li> <li>b) Consider the cumulative impact of vegetation clearing required for access roads, firebreaks, building envelopes and Building Protection Zones to necessitate higher intensity rural developments, and their likely influence on bushfire risk.</li> <li>c) Support ecologically sustainable development proposals.</li> </ul>
2. Protect and conserve the rural natural environment, ensuring the protection of biodiversity of all life forms is addressed at all levels of local planning.	<ul style="list-style-type: none"> <li>a) Introduce provisions in the Local Biodiversity Strategy or a Local Planning Policy to facilitate incentives for retention and improvement of areas containing native vegetation.</li> <li>b) Avoid development where there are undesirable impacts on identified environmental features such as, but not limited to, Declared Rare or Priority Flora, Specially Protected or Priority Fauna, Threatened or Priority Ecological Communities, Conservation Category Wetlands.</li> <li>c) Consider the likely development impacts on Bush Forever sites through the planning process, ensuring mandated clearing requirements for vegetation are minimised.</li> <li>d) Review current development requirements outlined in Local Planning Policy, Scheme provisions relating to Structure Plan requirements in rural areas and extractive industry licencing and rehabilitation, and pursue improvements where necessary.</li> </ul>
3. Promote/Investigate mechanisms which maintain biodiversity in perpetuity on private land containing significant native vegetation (including ecological linkages identified in the City's Biodiversity Strategy), such as conservation zones, environmental management arrangements and conservation covenants.	<ul style="list-style-type: none"> <li>a) Apply requirements for biodiversity protection, including protection of ecological linkages as defined in the City's Biodiversity Strategy, associated local planning policy and the City's Wildlife Corridor Strategy (2003).</li> </ul>

**Protect and conserve the rural natural environment, ensuring the protection of biodiversity...**

## 2.4 Coordinate Rural Settlement

Strategies	Actions
<b>1. Address future development needs of the rural community whilst permitting rural settlement and land uses in appropriate locations.</b>	<ul style="list-style-type: none"> <li>a) Identify preferred rural living release areas based on a catchment planning approach having regard to physical, social and servicing capacity. Favourably consider rural living development where a reliable, potable water supply is reasonably available.</li> <li>b) Support rural settlement within close proximity to townsites, where access to community infrastructure and other social facilities are available.</li> <li>c) Ensure rural settlement is focused on areas where accessibility or bushfire infrastructure improvements could be made, or where rural settlement can provide infill rural smallholdings between established rural living estates and rural townsites areas.</li> <li>d) Manage the supply of rural residential lots within identified precincts (based on physical, servicing and social criteria in accordance with State Planning Policy 2.5); and, based on analysis of demand (Refer to 2.9 Place Specific Objectives).</li> </ul>
<b>2. Ensure bushfire prevention is a significant consideration across all stages of local planning processes when determining rural settlement and land use in rural areas.</b>	<ul style="list-style-type: none"> <li>a) Avoid new rural settlement in high risk areas; additional 'rural living' should be avoided in areas that have been identified as having a high level of risk for bushfires.</li> <li>b) Support further subdivision of rural lands where appropriate zoning has been allocated and defined in the Scheme.</li> <li>c) Identify areas of moderate and high bushfire risk (i.e. the Bushfire Risk Analysis mapping) and limit rezoning or subdivision which supports non-agricultural land use activities.</li> <li>d) Apply primacy of human life and precautionary principles when considering rural living developments and WAPC subdivision referrals.</li> <li>e) Address the cumulative impact on native or remnant vegetation in order to achieve bushfire hazard separation (i.e. clearing requirements) and firebreaks within proposed development and subdivision areas.</li> </ul>
<b>3. Support rural living settlements that are adequately or reasonably capable of being serviced with a reliable potable water supply and that offer appropriate defence against bushfire occurrences.</b>	<ul style="list-style-type: none"> <li>a) Incorporate fit-for-purpose water supply for rural living estates, taking into account average annual rainfall and the capacity to capture water from impervious surfaces such as roofs.</li> <li>b) Apply standards (namely 150,000L minimum rainwater tank requirements) in non-reticulated water supply areas in Bushfire Prone Areas within Scheme or Local Planning Policy.</li> <li>c) Apply the standards prescribed in Appendix 1 of SPP 2.5 (2012) for rainwater harvesting and tank size.</li> </ul>
<b>4. Discourage vulnerable and hazardous land uses in areas within close proximity to high and extreme bushfire hazard.</b>	<ul style="list-style-type: none"> <li>a) Utilise current and up-to-date information on bushfire hazard and risks when determining structure plans or planning proposals that are within identified bushfire prone areas.</li> <li>b) Require the submission of comprehensive fire management plans to support development proposals and structure plans that are influenced by bushfire threats.</li> <li>c) Acknowledge the additional pressure certain land uses impose on emergency response when determining planning applications.</li> <li>d) Upon review of the LPS17, consider the suitability and permissibility of hazardous, vulnerable or sensitive land uses in bushfire prone areas that prevail in rural zones.</li> <li>e) Provide additional guidance in the local planning policy applicably to Rural Zones (POL-TP-126) for rural land use and settlement in bushfire prone areas.</li> <li>f) Accommodate proposals only where there is an overriding benefit to the community, no suitable alternative is available and adequate protection from bushfires can be demonstrated.</li> </ul>

## 2.5 Maintain Rural Landscape

Strategies	Actions
<b>1. Protect and enhance the rural landscape recognising prevailing native vegetation and topography as important landscape features through the local planning framework and decision-making.</b>	<ul style="list-style-type: none"> <li>a) Consider the cumulative impact of development on the natural landscape, ensuring the scale and appearance of development considers the rural visual environment.</li> <li>b) Accommodate provisions in local planning policy applicable to rural areas to manage the appearance and scale of development in relation to reflective building materials and building height.</li> <li>c) Require the submission of Visual Impact Assessments which address the visibility and visual prominence of proposed developments, where appropriate, and the likely impact on their surrounds.</li> <li>d) Facilitate the limited expansion of rural tourist development where it will not impact on landscape, environment and other values, nor shall it detract from the rural character of the area.</li> <li>e) Consider the compatibility of new development to the scale, character and visual quality of the existing rural fabric and landscape with the potential impact on local character and identity.</li> <li>f) Identify visually prominent landforms, land cover and other cultural features that are considered as having scenic values within the rural areas of the City.</li> <li>g) Assess the likelihood of rural land uses and developments having adverse impacts on the rural landscape.</li> <li>h) Define areas considered worthy of retaining the natural and cultural landscape features, and establish specific provisions for the 'Landscape' precinct identified in the LRPS to minimise visual impacts.</li> <li>i) Include objectives and implementation criteria in Local Planning Policy and objectives for Landscape zones identified in the LPS17 relating to visual amenity issues in rural areas.</li> </ul>
<b>2. Maintain the dominance of important topography and natural vegetation features over development.</b>	<ul style="list-style-type: none"> <li>a) Take into account the importance of topography and natural vegetation within the City that contribute to the visual amenity and character of its rural areas, through all stages of the planning process.</li> <li>b) Ensure rural character is maintained through appropriate land uses and land management practices, guiding the establishment and management of rural land uses with consideration given to the surrounding landscape when determining applications for planning consent.</li> <li>c) Require visual impact assessments to support the submission of planning applications which may have impacts on topographical and vegetation features on a site.</li> </ul>
<b>3. Retain and enhance the rural character and landscape of the City's rural townsites and their surrounds.</b>	<ul style="list-style-type: none"> <li>a) Develop 'Local Area Plans' which specifically address the unique natural and cultural features which contribute to a sense of place and the local identity of rural townsites (namely Bullsbrook and Gidgegannup).</li> <li>b) Develop spatial plans (master plans or Structure plans) for rural townsites (Bullsbrook, Gidgegannup and Upper Swan) to coordinate land use, development and services in those areas which do not detract from the prevailing rural character and landscape.</li> </ul>

## 2.6 Minimise Land Use Conflict

STRATEGIES	ACTIONS
<b>1. Minimise and manage the impacts between dynamic land use activities and the practices employed by agricultural and other rural sectors of the City.</b>	<ul style="list-style-type: none"> <li>a) Identify and maintain adequate buffer distances that apply to noxious rural industries, intensive and noxious activity (poultry farms, piggeries etc.) and extractive industries, ensuring urban development and sensitive land uses avoid those areas influenced by buffers and minimum separation distances.</li> <li>c) Ensure Structure Plans include adequate buffers on urban zoned land to separate residential and sensitive land uses from agricultural land uses on rural land, consistent with Environmental Protection Authority requirements.</li> <li>b) Require submission of an agricultural impact assessment where a proposal may likely impact on the primary productivity of adjoining or nearby farming operations.</li> </ul>
<b>2. Recognise the efficiencies which can be achieved through the integration of rural land uses.</b>	<ul style="list-style-type: none"> <li>a) Encourage alternative tenure arrangements for rural land use activity such as co-operatives and cluster farming, where considered appropriate.</li> </ul>



## 2.7 Promote Tourism and Recreation

Strategies	Actions
<b>1. Encourage growth and development of tourism and recreation opportunities in the City's rural areas.</b>	<ul style="list-style-type: none"> <li>a) Identify and retain recreation opportunities, considering the likely impact of proposed land uses and developments on recreational viability of those areas.</li> <li>b) Develop a long-term City-wide trails strategy identifying existing trails assets including bridle, walking, cycle and kayak/canoe trails.</li> <li>c) Promote and encourage tourism-based land uses, including appropriately-scaled accommodation and related infrastructure, near locations containing recreation opportunities in the City's rural areas.</li> <li>d) Amend the Scheme where applicable to incorporate provisions that support development of the tourism and recreation industry in the City's rural areas.</li> </ul>
<b>2. Support tourism development in rural areas, respecting the primary productivity of the City's rural areas whilst recognising the contribution tourism has on the local economy.</b>	<ul style="list-style-type: none"> <li>a) Allow tourism related development and land uses which are complementary to the City's primary productivity and rural industry.</li> <li>b) Consider tourism and accommodation as legitimate land uses that may supplement traditional agricultural farming practices, encouraging ventures such as agricultural tourism (agri-tourism), farm stays, bed and breakfasts and low impact chalets.</li> <li>c) Ensure tourism related developments and land use are supported by sufficient services, particularly with respect to water supply, effluent disposal and transport infrastructure.</li> </ul>
<b>3. Encourage opportunities for tourism that are an appropriate scale and nature which complement the rural character prevailing in the City's rural lands.</b>	<ul style="list-style-type: none"> <li>a) Consider appropriate farm-stay/chalet style tourism developments in suitable areas. Amend the Scheme where applicable.</li> <li>b) Encourage low-impact, adequately scaled ecotourism opportunities in rural parts of the City, considering prevailing areas of natural beauty and unique biodiversity values.</li> <li>c) Identify the significance of the Swan Valley and other rural attractors as important economic generators.</li> <li>d) Support the diversification of traditional forms of agriculture, incorporating tourism and recreation synergies into agricultural enterprise and supporting tourist uses (accommodation) in appropriate locations.</li> </ul>

## 2.8 Protection of Heritage

Strategies	Actions
<b>1. Protect, enhance and conserve cultural significance within the City's rural areas.</b>	<ul style="list-style-type: none"> <li>a) Structure Plans, subdivisions and development applications affecting places included on the Municipal Heritage Inventory (MHI) and/or Heritage List will be referred to the City's Heritage consultant and/or Heritage Council of WA (HCWA) as appropriate for comment. Comments from either the City's Heritage Consultant or HCWA will be referred back to the proponent to be addressed.</li> <li>b) The City will exercise its discretion in the assessment of proposals that impact on heritage and cultural significance.</li> <li>c) Where an Application for Review of a Council decision is made by a proponent on a matter of State Heritage significance, the City will request the State Administrative Tribunal to allow the HCWA to be co-joined as a Respondent to the Application for Review.</li> </ul>
<b>2. Ensure local indigenous heritage significance is respected, valued and recognised in the City's rural areas.</b>	<ul style="list-style-type: none"> <li>a) Developments should respond to the site context, including Indigenous Heritage significance.</li> <li>b) Structure Plans, subdivisions and development applications affecting areas of Indigenous Heritage value will be referred to the Department of Aboriginal Affairs (DAA) for comment. Comments from DAA will be referred back to the proponent to be addressed.</li> <li>c) The City will exercise its discretion in the assessment of proposals that impact on indigenous heritage and cultural significance.</li> <li>d) Where an Application for Review of a Council decision is made by a proponent on a matter of Indigenous Heritage significance, the City will request the State Administrative Tribunal allow DAA to be conjoined as a Respondent to the Application for Review.</li> </ul>



## 2.9 Place Specific Objectives

The City of Swan has divided its jurisdiction into five Place Management Areas. Place Management Areas are then further divided into thirteen different communities across the City. These are referred to as Place Areas or Places. Local Area Plans are currently being prepared by the City for each Place Area. The City considers the specific needs and desires of individual rural places as important within each community and thus proposes the following place specific objectives.

### 2.9.1 Rural Areas—Gidgegannup

Strategies	Actions
<b>1. Rationalise existing rural residential estates, ensuring population and housing growth is directed in a manner which respects the need to preserve the natural and rural landscape, rural activities and also enables more efficient provision of facilities and services.</b>	<ul style="list-style-type: none"> <li>a) Provide input into the adoption, and regular review of, Growth Management Strategies (Directions 2031) for the north east sector of the Perth Metropolitan Region and investigate the capacity of existing rural townsites to support the identified growth demands.</li> <li>b) The City's input into the adoption and regular review of a Growth Management Strategy for the north east sector of the Perth Metropolitan Region will consider the capacity of existing rural living areas to support higher rural densities, including, but not limited to the following criteria: <ul style="list-style-type: none"> <li>i) land capability analysis;</li> <li>ii) fire hazard assessment;</li> <li>iii) visual landscape analysis; and</li> <li>iv) access to a reticulated or fit-for-purpose potable water supply, demonstrating availability of water supply for both domestic and bushfire emergency situations.</li> </ul> </li> <li>c) Ensure future rural living (rural residential and rural small holdings estates) blends with the surrounding rural fabric ensuring: connectivity with strategic firebreaks; accessible and legible movement networks, close proximity to townsites; and, service availability and community infrastructure provisions for new developments.</li> <li>d) Facilitate comprehensive planning of the 'Rural Living A: Rural Residential' precincts, as identified in Figure 8, for the purposes of Rural Residential development, ensuring the City will initiate amendments to its Local Planning Scheme only when servicing requirements outlined by State Planning Policy 2.5 and specific requirements for planning in bushfire prone areas are explicitly addressed.</li> </ul>
<b>2. Support a townsite area that can appropriately accommodate projected population demand.</b>	<ul style="list-style-type: none"> <li>a) The City supports a townsite area that can accommodate future population growth as determined through State level strategies, provided it can be sufficiently connected to a reticulated scheme water supply and appropriate waste water system.</li> </ul>
<b>3. Ensure all development is adequately serviced to support safe and amenable rural living.</b>	<ul style="list-style-type: none"> <li>a) The City will not support any proposed development which has not proved to the satisfaction of the City, to be adequately serviced.</li> <li>b) Rural living developments shall be sufficiently connected to a potable water supply, to meet residential and firefighting water requirements: <ul style="list-style-type: none"> <li>i) New Rural Residential and Rural Smallholdings developments with individual lots of 4 hectares or less shall demonstrate sustainable water supply of sufficient capacity of no less than 150kl.</li> </ul> </li> </ul>
<b>4. Support and develop rural tourism and recreation opportunities in the Gidgegannup Place area.</b>	<ul style="list-style-type: none"> <li>a) Facilitate rural tourism through the Scheme and local planning policy, providing guidance for considering appropriate land uses and tourist-based facilities.</li> <li>b) Consider tourism opportunities that can coexist and supplement primary production activities in Gidgegannup, such as farm-stay chalets and agriculture-based tourism (agritourism).</li> <li>c) Promote ecologically sensitive tourism (ecotourism) opportunities in appropriate areas, ensuring the scale and nature of development respects the biodiversity and landscape values within Gidgegannup.</li> <li>d) Encourage tourism-based land uses where there are identifiable opportunities and interactions with recreation activities, cultural and/or natural features.</li> </ul>
<b>5. Establish and maintain the environmental qualities and biodiversity values within the Gidgegannup Place area.</b>	<ul style="list-style-type: none"> <li>a) Investigate the potential of establishing an ecological corridor (including mechanisms available for its establishment) linking Walyunga National Park and John Forrest National Park, to the west of the Gidgegannup Townsite (refer to Strategy 3 of Part 2.3 Environmental Protection).</li> </ul>

## Develop the townsite in accordance with the Bullsbrook Townsite Land Use Master Plan.

### 2.9.2 Rural Areas—Bullsbrook

Strategies	Actions
1. Develop the townsite in accordance with the Bullsbrook Townsite Land Use Master Plan.	a) Prioritise and co-ordinate growth in those areas identified in the Council endorsed Master Plan.
2. Ensure that any proposed development is adequately serviced	a) The City will not support any proposed development which has not proved to the satisfaction of the City to be adequately serviced.
3. Provide suitable rural residential development that meets demand where it meets criteria outlined within the Bullsbrook Townsite and Rural Strategy.	a) The City will favourably consider creation of rural living allotments only where movement network and emergency access linkages, community facilities and infrastructure requirements and other improvements can be achieved. b) Ensure Priority Agricultural Land is protected when considering the location of rural living estates, maintaining adequate buffers and/or separation distances such that primary production activities are protected from rural settlement.
4. Address current constraints affecting development.	a) Recognise the sensitivity of the surrounding environment, including the Twin Swamps Catchment area and the Twin Swamps Nature Reserve, with consideration given to up-to-date advice provided by the Environmental Protection Authority in regards to the Western Swamp Tortoise habitat and surrounding land uses. b) Review the LPS17 measures for Western Swamp Tortoise habitat protection, namely through application of a spatial statutory plan (structure plan or similar) addressing specific requirements by the EPA such as land use activity, setbacks, minimum lot sizes and land management measures in areas abutting or affected by the nature reserves containing the habitat. c) Establish a range of land uses in the Bullsbrook West Local Priority Agriculture precinct which will eventually compliment, rather than conflict, with future intermodal transport and light industrial land uses anticipated in the vicinity as part of EELS.



### 2.9.3 Rural Areas—Upper Swan

Strategies	Actions
1. Provide for urban development once existing land supply elsewhere has diminished and services are available.	<ul style="list-style-type: none"> <li>a) The City's input into the adoption and regular review of a Growth Management Strategy for the north-east sector of the Perth Metropolitan Region must consider the capacity of existing rural townsites to support higher urban densities.</li> <li>b) Identify the townsite expansion area consistent with land uses and urban development anticipated for the area.</li> <li>c) Preparation of a strategic Master Plan or similar spatial planning instrument in order to guide land use and service and infrastructure delivery in the Upper Swan townsite.</li> </ul>
2. Address current constraints prohibiting development in a Strategic Master Plan.	<ul style="list-style-type: none"> <li>a) Undertake constraints analysis examining the major constraints including, but not limited to:               <ul style="list-style-type: none"> <li>i) The sensitivity of the surrounding environment, including the Ellenbrook Catchment area and the Ellen Brook Nature Reserve, with consideration given to up-to-date advice provided by the EPA in regards to the Western Swamp Tortoise habitat and surrounding land uses;</li> <li>ii) Review the LPS17 measures for Western Swamp Tortoise habitat protection, namely through application of a spatial statutory plan (structure plan or similar) addressing specific requirements by the EPA such as land use activity, setbacks, minimum lot sizes and land management measures in areas abutting, or affected by, the nature reserves containing the habitat;</li> <li>iii) The Indigenous Heritage Sites in the area;</li> <li>iv) Northern sections of the precinct have a moderate-low capability for on-site effluent disposal;</li> <li>v) South-western sections are susceptible to flooding, wind erosion, water logging, salinity and phosphorous export;</li> <li>vi) The Ellen Brook nature reserve is deemed to have an extreme bushfire risk. Consideration should be given to adjoining development's ability to mitigate and manage these risks;</li> <li>vii) There are a number of resource extraction areas within and adjacent to the proposed development precinct which will constrain further urban development; and</li> <li>viii) Existing and proposed road network improvements and transport infrastructure such as the Perth-Darwin Highway.</li> </ul> </li> </ul>



## 2.9.4 Rural Areas—Swan Valley

(Note: Subject to the provision of the SVP Act, these City strategies and actions will be addressed through participation and input to any studies/projects directed by the Minister for Planning.)

Strategies	Actions
<b>1. Protect the viticulture and tourist precinct in the Swan Valley from inappropriate development.</b>	<ul style="list-style-type: none"> <li>a) Provide input into the Department of Planning—Swan Valley Strategic Direction Report, or any projects directed by the Minister for Planning, to make recommendations on potential changes to the <i>Swan Valley Planning Act 1995</i> (SVP Act) acknowledging the economic drivers and viticultural industry changes experienced in the Swan Valley.</li> <li>b) Ensure any application for development or subdivision is consistent with the intent of the SVP Act.</li> </ul>
<b>2. Secure access to prime agricultural land in the Swan Valley, ensuring longevity of viticulture, tourism and other complementary land uses.</b>	<ul style="list-style-type: none"> <li>a) Identify Local Priority Agriculture land in the LRPS precinct maps.</li> <li>b) Restrict subdivision of Local Priority Agriculture land from where it results in lots sizes that cannot reasonably be expected to support a commercially viable agricultural, horticultural or related primary production enterprise, and limiting non-agricultural land use of such land.</li> <li>c) Identify and protect priority agricultural land from alienation or operational constraints imposed by incompatible adjacent uses.</li> <li>d) Review water supply security, including groundwater allocation, use, re-use and management.</li> <li>e) Support agricultural landholders who wish to remain in their homes, but who are no longer able or willing to engage in agricultural production, to find innovative alternatives that will retain the land in agricultural production.</li> <li>f) Investigate existing and emerging barriers to viable agribusiness (production, processing and distribution of agricultural products) and complementary activities, and minimising these where practicable, with a particular focus on barriers imposed by government regulation and financial imposts.</li> <li>g) Promote and facilitate continuous improvement in sustainable agricultural practices that support viable agricultural industries, including the application of industrial ecology concepts and Natural Resource Management principles as appropriate.</li> <li>h) Adopt food sensitive urban design and WSUD principles within urban fringe developments adjoining the Swan Valley.</li> </ul>
<b>3. Recognise the economic, social and historical significance of primary industries in the Swan Valley.</b>	<ul style="list-style-type: none"> <li>a) Non-compatible land uses such as new urban development will be required to address the interface with established agricultural and viticultural activities through measures such as: <ul style="list-style-type: none"> <li>i) Placement of road reserves to maximise separation;</li> <li>ii) Provision of larger interface lots;</li> <li>iii) Revegetation to soften the transitional edge; and</li> <li>iv) Placement of Notifications on Title to notify prospective lot owners they may be affected by noise, spray drift, dust odours and light from agricultural activities.</li> </ul> </li> <li>b) Adequate buffers and/or separation distances are required to be established on the land between non-compatible land uses and the land being developed.</li> </ul>
<b>4. Develop a local planning framework to manage land uses and development in the Swan Valley based on a local, articulated vision.</b>	<ul style="list-style-type: none"> <li>a) Defining, planning and managing 'retail and community service nodes' within the Swan Valley, ensuring they do not impact on the Swan Valley Local Priority Agriculture precinct.</li> <li>b) Develop guidelines to clarify the definition of 'acceptable' tourism activities and facilities, with a focus on agri-tourism and ecological tourism.</li> <li>c) Develop performance based land use criteria for assessing development in the Swan Valley Local Priority Agriculture precinct.</li> </ul>
<b>5. Build the capacity of primary producers in the Swan Valley through adopting contemporary planning and management principles.</b>	<ul style="list-style-type: none"> <li>a) Adopt Natural Resource Management principles for development and land uses within the Swan Valley, within the context of the SVP Act objectives.</li> <li>b) Protect and improve the natural resource base, including water and good quality soils.</li> <li>c) Secure access to agricultural land using local planning policy and Scheme requirements.</li> <li>d) Secure access to suitable water supplies.</li> <li>e) Maintain and improve biosecurity measures.</li> <li>f) Support the diversification of new enterprises in the Swan Valley providing greater resilience for the agricultural industry against market fluctuations.</li> </ul>



### 3. Rural Planning Precincts

In order to achieve the strategic objectives, rural areas of the City of Swan have been allocated into precincts corresponding with the State planning framework and within the statutory framework of the LPS17. Identified precincts and corresponding objectives will allow specific aims of the Strategy to be fulfilled, and guide assessment of proposals, rezoning, subdivision and management of rural land. Each precinct has been allocated 'indicative' or anticipated land uses to guide future revisions to Scheme zoning, land use and corresponding permissibility. It should be noted that identified precincts will not automatically dictate the future zoning of certain lands, as rezoning and subdivision is subject to determination by the WAPC.

Rural Strategy precincts have been determined by the following process:

- Exclusion of areas identified under the MRS zoning as 'Urban', 'Urban Deferred' and 'Industrial' which have already, or are expected to, develop into urbanised areas.
- Exclusion of the rural townsite nodes of Bullsbrook, Gidgegannup and Upper Swan which require a more detailed analysis of land use issues and infrastructure services that goes beyond the scope of this strategy. Such areas are generally included in the 'Townsite
- Expansion' precincts and shall require the preparation of master plans or similar strategic planning instrument, supporting additional development and coordination of land uses within these areas.
- The remaining rural areas, including the area identified under the SVP Act as the 'Swan Valley' precinct have been included in specific rural precincts which have been identified based on land use and land capability, topographical and geological features and other environmental characteristics.

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**Provide for the sustainable growth of tourism and recreation activities, recognising the importance of tourism to the local and regional economy ...**

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The following precincts have been identified for the purposes of the Strategy. The extent and boundaries for each of the rural planning precincts are shown on the Rural Precinct Plan (Figure 8). Rural Planning Precincts have also been allocated indicative land uses which may guide future revisions to the Scheme zoning and land use permissibility. Each of these precincts are addressed in more detail in the following sections.

Note: Notwithstanding current permissibility of land uses under LPS17, the following land use expectations as set out in Tables 1–6 should be considered as strategic guidance for future scheme reviews.

### Future Urban

These areas consist of the immediate areas surrounding the townsites of Bullsbrook, Gidgegannup and Upper Swan containing predominantly rural-living and semi-rural allotments which currently provide a transition between the more developed townsites and the surrounding rural areas catering for the expansion of townsites.

### Rural Living

Comprises of rural lots established primarily for residential purposes, whilst capable of supporting low-scale primary production activities where land capability allows. Rural living precincts accommodate hobby farms, cottage industries, low-impact tourism and home-based business type land uses, and can be characterised by objectives and policy measures prescribed for Rural Living precincts, as outlined in part 5.6 of SPP 2.5 (2012) and the *Rural Planning Guidelines 2014*.

#### Rural Living A—Rural Residential

Rural Residential is a subset of Rural Living with land parcels typically ranging between 1–4 hectares predominantly with a lifestyle focus.

#### Rural Living B—Rural Smallholdings

Rural Smallholdings is a subset of Rural Living where lots are developed as an estate, predominantly with a lifestyle focus, with lots ranging between 4–40 hectares to uphold primary production and a range of other low scale 'rural' land uses.

#### Rural Living C—Western Swamp Tortoise Rural Living

This identified Rural Living area gives particular consideration of the prevailing environmental attributes and sensitive habitat of the Western Swamp Tortoise, a threatened species. The lot range and land use requirements are influenced by site conditions and the endorsement of the Swan River Trust and the Environmental Protection Authority (EPA).

### Rural Landscape

The Rural Landscape precinct is intended to protect and enhance biodiversity and the natural landscape values of the Swan hills, ensuring development, land use and subdivision is sensitive to the natural and biological fabric.

### General Rural and Agriculture

Comprises of the land generally suitable for supporting the production, processing and distribution of agricultural products whilst supporting other rural land uses such as extractive industries and agroforestry/plantations.

### Priority Agriculture

Areas considered critical to preserve agricultural land assets, protected from 'lifestyle' subdivision and other non-compatible development, in areas that are not restricted by buffer requirements and urbanisation, with the specific aim of protecting viable land to allow for a range of diverse agriculture uses.

### Industrial Investigation Area

This area requires more detailed planning and analysis to direct land use and zoning. Industrial land supply targets and structure planning will dictate the function and form of industrial development and land use in this location.





RURAL PRECINCT PLAN

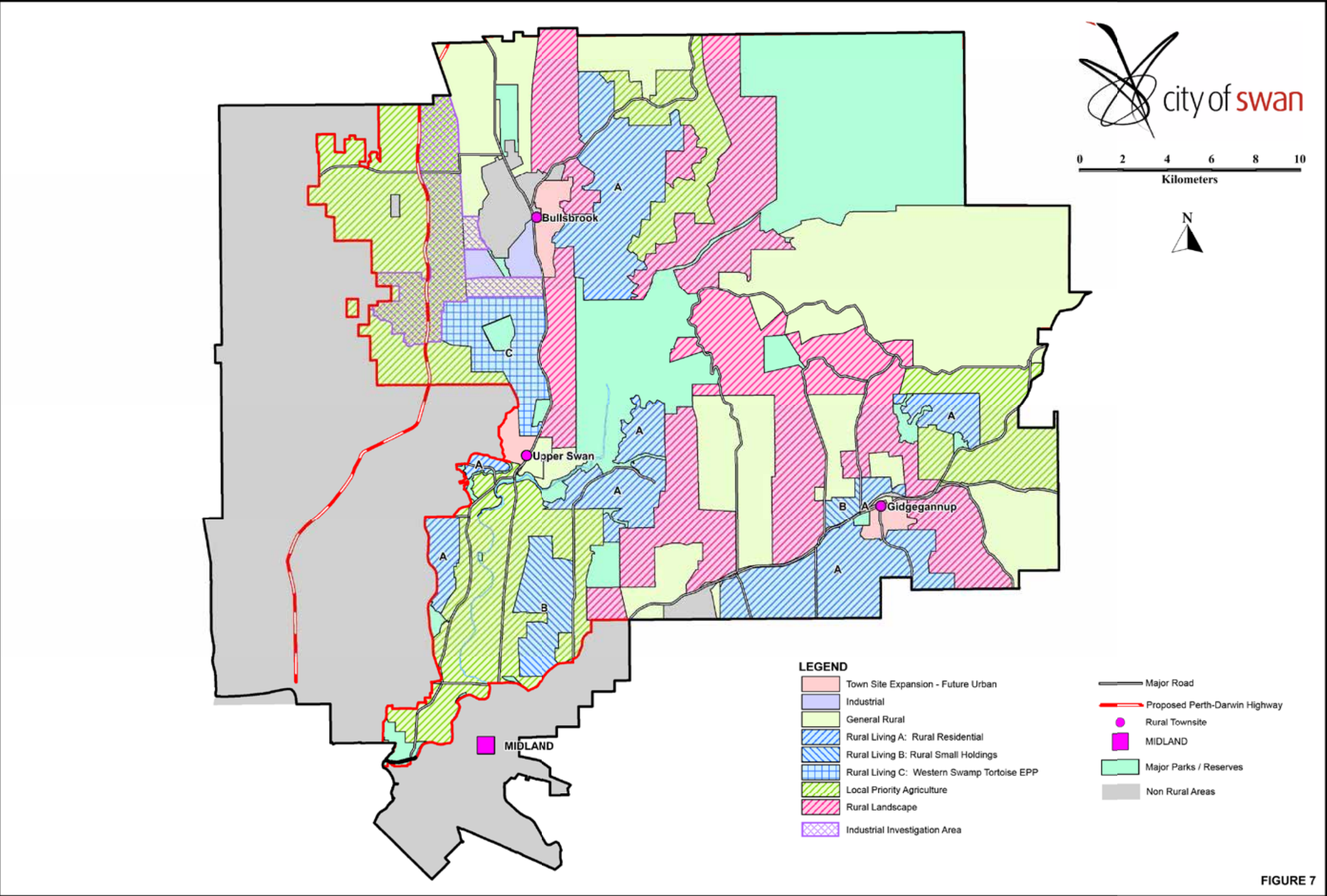


Figure 8. Rural Precinct Plan

FIGURE 7

Please open to view map.

Figure 8. Rural Precinct Plan



### 3.1 Future Urban

#### Objectives:

- a) To provide urban land uses within identified townsites of Bullsbrook, Upper Swan and Gidgegannup.
- b) To provide a transition between the established town site areas and surrounding rural areas, supporting a range of residential, commercial, industrial, parks and recreation, community purposes and infrastructure uses.
- c) Define precinct boundaries and growth by the State's urban growth strategy (i.e. Directions 2031) where expansion of urban development is anticipated.

**Land Use Allocation** (to guide future revisions to the local planning scheme):

**Table 1. Land Use Allocation for Future Urban**

Desirable	Acceptable with Council consent	Unacceptable
Civic/Community purposes, single dwellings, educational and training establishments, residential-tied business, appropriate commercial and light industrial uses. Specific urban land uses identified in local-level structure plans.	Aged and dependent persons' dwellings, various forms of industry (namely light and rural), grouped dwellings, tourist facilities. Any uses determined to be acceptable with consent, in accordance with an approved structure plan.	Heavy industry and some large scale commercial land uses.

#### Subdivision and Development Criteria:

- Subdivision and settlement should be supported by the State's strategy for growth and settlement (i.e. Directions 2031) and shall consider Liveable Neighbourhood principles.
- Preference for settlement within Future Urban precinct will be given to those areas existing within an overarching strategic framework for growth, such as the Bullsbrook Master Plan. Any additional areas of growth must address pertinent planning and development issues through a structure plan and sufficiently demonstrate demand for additional lots supply in the context of existing supply and serviceability.
- Subdivisions within the precinct shall be supported by the submission of a Structure Plan, which shall include provision for development contributions for community infrastructure items identified in *State Planning Policy No. 3.6 'Developer Contributions for Infrastructure (2009)'* (SPP 3.6) and other facilities (such as bushfire fighting facilities and road network upgrades) where required.
- Structure Plans shall identify adequate buffers on urban zoned land to separate residential and sensitive uses from agricultural uses on identified Rural and Local Priority Agriculture land, consistent with the EPA's Guidance for Separation Distances between Industrial and Sensitive Land Uses (2005).

## 3.2 Rural Living (Rural Residential Rural Smallholdings and Western Swamp Tortoise EPP)

### Objectives:

- To provide coordinated rural living opportunities whilst considering and minimising impacts on rural character, biodiversity, natural resources, bushfire threats and agricultural and primary production activities.
- To ensure Rural Residential and Rural Smallholding developments are comprehensively planned and provided with necessary infrastructure.
- To ensure development and subdivision takes into account the prevalent surrounding rural, agricultural and extractive resource activities.
- To support the social and economic viability of the rural townsites of Bullsbrook and Gidgegannup through the effective provision of services and infrastructure (including community infrastructure).
- To minimise risk to life and property by considering the prevailing threat of bushfire hazard in determining planning applications, ensuring development is in accordance with current best practice for bushfire protection and mitigation.

### Land Use Allocation (to guide future revisions to the local planning scheme):

**Table 2. Land Use Allocation for Rural Residential**

Desirable	Acceptable with Council consent	Unacceptable
Bed and Breakfasts, Family Day Care, Home Occupation, Home Office, Single Dwelling, Ancillary Accommodation.	Animal Establishments, Veterinary Centre, Agriculture (Extensive and Intensive), Agroforestry, Camping areas, Cabins and Chalets, Tourist facilities, Wineries, Restaurant, Equestrian facilities, Rural pursuits, Industry—Cottage, Home Business, Place of Worship, Garden Centre, Recreation (private and public), Telecommunications Infrastructure, Food and Beverage Production.	Most forms of commercial and industrial land uses not identified as desirable or acceptable with consent.  Noxious, hazardous and/or intrusive land uses.

**Table 3. Land Use Allocation for Rural Smallholdings**

Desirable	Acceptable with Council consent	Unacceptable
Bed and Breakfasts, Family Day Care, Home Occupation, Home Office, Single Dwelling, Rural Pursuit, Equestrian facilities.	Animal Establishments, Veterinary Centre, Agriculture (Extensive and Intensive), Agroforestry, Camping areas, Cabins and Chalets, Tourist facilities, Wineries, Restaurant, Industry—Cottage, Home Business, Ancillary Accommodation, Place of Worship, Garden Centre, Recreation (private and public), Telecommunications Infrastructure, Food and Beverage Production.	Most forms of commercial and industrial land uses not identified as desirable or acceptable with consent.  Noxious, hazardous and/or intrusive land uses or rural pursuits.

## Subdivision and Development Criteria:

- **Rural Residential (Rural Living Area A)**—Lot range between 1 hectare to 4 hectares based on site conditions and land suitability.
  - Submission of a local Structure Plan in accordance with Scheme provisions is required to support an application for subdivision or development.
  - Submission of a detailed Fire Management Plan to be submitted with Structure Plans, demonstrating sufficient mitigation measures and firefighting infrastructure to be supplied.
  - Where lots with an individual area of 4 hectares or less are proposed and a reticulated water supply of sufficient capacity is available in the locality, the precinct will be required to be serviced with reticulated domestic water proved by a/the licenced service provider, including water for firefighting purposes. Should an alternative to a reticulated water supply be proposed, it must be demonstrated that a reticulated water supply is not available.
  - Where a reticulated supply is demonstrated to be not available, or individual proposed lots exceed 4 hectares in area, consideration may be given to fit-for-purpose domestic potable water supply, which includes water for firefighting purposes. The supply must be demonstrated, sustainable and consistent with the appropriate standards for water and health.
  - Where acceptable supply of potable water cannot be demonstrated, the development and/or subdivision may not proceed.
  - Where reticulated sewerage is not available, each proposed lot shall contain suitable land for the installation of an on-site effluent disposal system to prevent any form of pollution, taking cognisance of its proximity to water bodies, soil type, and depth to ground water and the slope of land.
  - The environmental capacity of the soils in the area shall be capable of assimilating wastes.
  - Subdivision and development subject of a Rural Living precinct shall contribute to the provision of community facilities where required, and in compliance with SPP 3.6 as appropriate.
  - The remnant vegetation and other environmental assets should not be compromised through clearing for inappropriately located building envelopes, minor structures (not usually located within a building envelope), bushfire protection, access and fencing.
  - Subdivision will promote good environmental and landscape outcomes and the soil and total water management cycle shall be addressed, and may include rehabilitation as appropriate.
  - Applicants shall address biodiversity within, and adjacent to, sites within precincts that have identified value as identified in the City's Local Biodiversity Strategy. LNAs, threatened species and communities, ecological corridors, and any other ecologically viable areas shall be protected in perpetuity demonstrated through the submission of an environmental impact assessment and subsequent management plans where required, pursuant to the City's Local Biodiversity Strategy.
  - The land shall be capable of supporting the development of a dwelling(s) and shall not be located in a flood prone area.
  - The land shall not be subject to a buffer from an adjoining land use or the impact(s) from the buffer should be managed to the satisfaction of the relevant authority.
  - Lots shall be serviced by constructed road/s capable of providing access during all weather conditions, including access and egress for emergency purposes.
  - It shall be demonstrated that the precinct is not in an extreme bushfire risk area and that any lesser bushfire risk can be minimised and managed without adversely affecting the natural environment. Preparation and implementation of bushfire management plans is a requirement for all Rural Living subdivisions.
  - In areas of moderate bushfire risk, dwellings will be required to be constructed to *Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas* and separation distances are to comply with relevant guidelines for bushfire protection in accordance with the LPS17.
- 
- **Rural Smallholdings (Rural Living Area B)**—Lot range between 4 hectares to 40 hectares in accordance with SPP 2.5 (2012) and based on site conditions and land suitability.
  - Must address the abovementioned requirements for Rural Residential development in addition to the following:
    - Subdivision of land may provide for a variety of lot sizes over each defined precinct.
    - Rural Smallholdings development shall demonstrate a focus towards an identifiable rural lifestyle theme (e.g. conservation lots, equestrian parks) and/or small scale primary production activities such as permaculture estates.
    - Subdivision may be supported if it creates opportunities for home business, industry-cottage, tourist or rural pursuits where part-time or full-time income may be derived from speciality agriculture production and value adding activities, arts, crafts and hobbies, small scale home manufacturing, home office, home-based medical, health and healing and similar activities.
    - Cluster farming arrangements and rural strata subdivisions will be considered where all of the above criteria and those of any relevant State Planning Policies can be suitably demonstrated.
- 
- **Western Swamp Tortoise EPP (Rural Living Area C) (Refer to Figure 9)**—Lot range between 2 hectares (in EPP precinct 'D' only) to 8 hectares based on site conditions and support from Department of Parks and Wildlife.
  - Scheme amendments, development and subdivision applications in the EPP area shall complement and implement the *Environmental Protection (Western Swamp Tortoise Habitat) Policy 2011* (Environmental Protection Policy).
  - The following future land uses shall not be permitted throughout the entire EPP area:
    - Any land uses associated with residential development at the urban zoned level (i.e. schools, shops or any uses that attract a large number of people, cars, pets etc.);
    - Intensive animal husbandry land uses (such as poultry farms, feedlots, dairies, piggeries); and
    - Noxious industry land uses (such as abattoirs).

- No more than one dwelling per lot shall be permitted.
- Building envelopes to be specified for each lot and located on already cleared land where at all possible.
- Dwellings and outbuildings must be located within building envelopes.
- The minimum setback for Infrastructure or development (i.e. building envelopes, sheds, dwellings, importation of fill, hard stands, and outbuildings) shall be at least 100 metres from the Twin Swamps and Ellen Brook Nature Reserve boundaries.
- The minimum setback for permanent water (i.e. dams, ponds, pools, septic tanks, alternative treatment units, disposal areas, irrigation, aquaculture, construction or upgrade of artificial drains—modifications to subsurface drainage through large scale excavation) shall be at least 100 metres from the Twin Swamps and Ellen Brook Nature Reserve boundaries.
- The number of livestock permitted per lot shall be equal to or less than the base (dry) stocking rate based on cleared land as defined in the Western Australian Department of Food and Agriculture document titled *Stocking Rate Guidelines for Rural Smallholdings—Swan Coastal Plain and Darling Scarp*.
- The minimum frontage of lots adjacent to or abutting the Twin Swamps and Ellen Brook Nature Reserves shall be 200 metres. Where a road or railway reserve lies between the nature reserve and the lot, the minimum frontage also applies to the lots abutting the road or railway reserve.
- A minimum setback for land uses such as, but not limited to, viticulture, market garden, orchards, horticulture, that require boom spraying of chemicals on the land, shall be 300 metres from the Twin Swamps and Ellen Brook Nature Reserve boundaries.
- Consideration may be given to reducing the 300 metre setback to development applications for land uses identified above, on a case by case basis, such a case could be if a landholder establishes a vegetated buffer element that can be satisfactorily implemented and maintained. The landholder must seek the approval of the regional office of the Department of Parks and Wildlife for appropriate local native plant species and design for the vegetated buffer. The landholder must seek the approval of the City of Swan on the future management and maintenance of the buffer. If a vegetated buffer cannot be enforced to be maintained and managed then the 300 metre minimum setback applies.
- If at any time an agreed vegetated buffer referred to above becomes ineffective or compromised through lack of maintenance, fire, failure to thrive, disease or removal then the 300 metre setback shall apply.
- Landholders spraying chemicals for the control of weeds in general land management activities within the 300 metre buffer to the Twin Swamps and Ellen Brook Nature Reserves that are not related to land uses identified above should take care to manage their activities to prevent drift into the Twin Swamps and Ellen Brook Nature Reserves.

These provisions specifically apply to whole lots of the surface water catchment (Precinct C of EPP area) to ensure

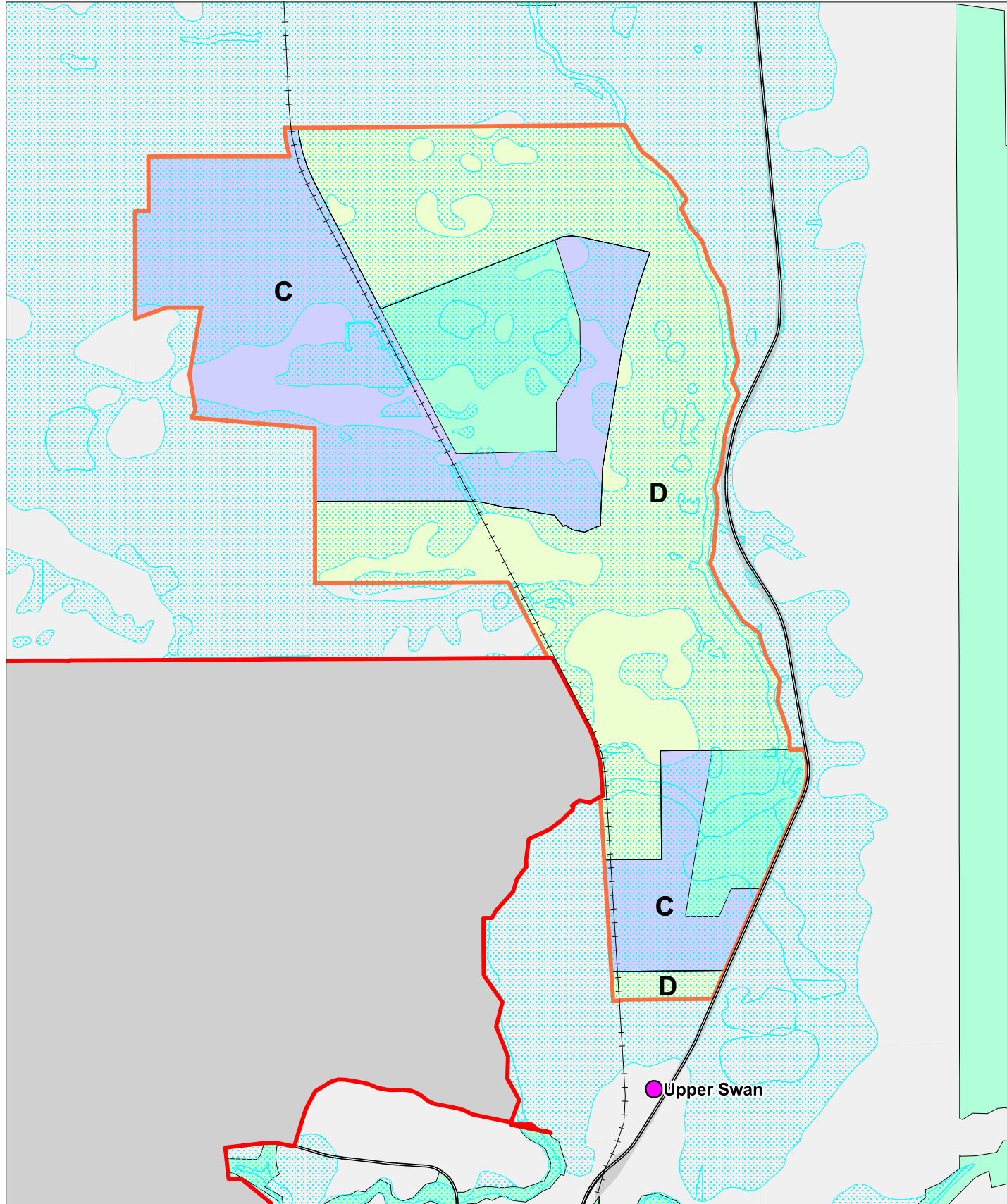
all potential surface water of the Western Swamp Tortoise habitat is captured:

- Where a landowner can clearly demonstrate in a development application that part or all of their lot is not within the surface water catchment then these provisions would not apply to that part. A consultant could provide the evidence (water and hydrological studies) needed to demonstrate the surface water catchment of the lot.
- These provisions are in addition to the provisions for the entire EPP area.
- The minimum lot size in the surface water catchment shall be 8 hectares.
- The following future land uses shall not be permitted in the surface water catchment in addition to the uses listed in the general provisions for the entire EPP area:
  - a) Intensive agriculture (i.e. turf farms, floriculture, market gardens and viticulture);
  - b) Transport depot;
  - c) Industry—light; and
  - d) Industry—mining.
- All land use applications in the surface water catchment shall address the management of the following:
  - a) Drainage—maintaining water quality and quantity runoff;
  - b) Nutrient loads;
  - c) Sewage—use of appropriately managed aerobic treatment units (maintained to high standard) or reticulated deep-sewerage (septic tanks are not acceptable);
  - d) Fill—all placement of fill material (for example, but not limited to, house pads, hard stands, general fill) must be free of potential contaminants and source and quality clearly identified or certified;
  - e) The storage of chemicals—to prevent risk of spillage and runoff; and
  - f) Any other relevant issues such as spreading of lime, land uses that use large quantities of water; land uses that result in leaching of chemicals through land application and discharge of nutrients and pollutants in aquaculture activities.

Minimum lot sizes for lots within the Western Swamp Tortoise EPP Rural Living Area shall comply with the following:

- The minimum lot size for lots abutting or adjacent to Twin Swamps and Ellen Brook Nature Reserves shall be 8 hectares. Where a road or railway reserve lies between the nature reserve and the lot, the minimum lot size of 8 hectares applies to the lots abutting the road or railway reserve.
- The minimum lot size in the surface water catchment (Precinct C of the EPP area) shall be 8 hectares.
- The minimum lot size in Precinct D shall be 2 hectares except where the general provisions specify 8 hectares due to setbacks or proximity to the Twin Swamps and Ellen Brook Nature Reserves.
- Applications for 2 hectare subdivision must be referred to the Department of Parks and Wildlife for assessment to ensure nutrient issues into the Ellenbrook catchment are managed.
- Should a 2 hectare subdivision application be submitted, each dwelling shall be provided with a supply of potable water, either from scheme water or an adequately sized rainwater storage system. Groundwater abstraction from bores to supply dwellings and gardens is not permitted.





## LEGEND









- |   |  |
|---|--|
|  Protection Area |  Wetlands       |
|  Major Reserves  |  Rural Townsite |
| Western Swamp Tortoise Habitat  |  |
|  Precinct C      |  Major Road     |
|  Precinct D      |  Railway        |



Figure 9. Western Swamp Tortoise EPP Rural Living Area

### 3.3 Local Priority Agriculture

#### General Objectives:

- a) To preserve areas of local agricultural significance, maintaining a clear emphasis on the primacy of agriculture and primary production activities above all other uses;
- b) To minimise the impact of adjoining land uses on the Local Priority Agriculture (LPA) precinct that may restrict or conflict with the continued use for agriculture;
- c) To support the establishment of agricultural land use through the effective management of natural resources;
- d) To establish objectives for identified LPA precincts based on prevailing land use constraints and land capability factors; and
- e) To minimise risk to life and property by considering the prevailing threat of bushfire hazard in determining planning applications, ensuring development is in accordance with current best practice for bushfire protection and mitigation.

#### Specific LPA Precinct Objectives:

##### Swan Valley LPA:

- Identify and protect priority agricultural land from alienation or operational constraints imposed by incompatible adjacent uses;
- Restrict the subdivision of priority agricultural land where this will result in lot sizes that cannot reasonably be expected to support a commercially viable agricultural, horticultural or related business;
- Applicants for development and subdivision shall demonstrate sufficient water supply security, including groundwater allocation, use, re-use and management;
- Swan Valley LPA precinct shall adhere to the general objectives of the SVP Act or any mechanism by which it may be replaced. Proposed land use and subdivision applications are to reflect the objectives for each Planning Area of that legislation; and
- Strategies and actions identified in this LRPS shall be addressed through input into studies lead by the Department of Planning under instruction of the Minister for Planning.

##### Bullsbrook West LPA:

- Offers expansion of intensive agricultural activities, particularly 'closed-loop' cultivation systems such as poultry farming and hydroponic/glasshouse enterprises that export minimal nutrients and require proximity to markets and protection from residential land use;
- The nature of soils and sensitivity of the Ellen Brook catchment to nutrient loss requires adherence to best management practices to ensure sustainability and protection of natural resources as an area of local agricultural significance; and

- Given the proximity to transport services, consideration of forms of cooperative agriculture and other supporting land uses such as 'grower's hubs' and shared packing/sorting facilities may also be considered favourably.
- Facilitate investigation into the expansion of industrial land, complimentary to surrounding rural land uses and in accordance with land supply targets for industrial land, as identified in relevant State strategy.

##### Bullsbrook East LPA:

- Maintain the predominantly large lot sizes to the east and north of existing rural-residential development in order to maintain the cleared good quality grazing land and other horticultural activities such as orchards and vineyards;
- Support agricultural activities based on livestock grazing benefiting from the close proximity to the Muchea Livestock Centre (in adjacent Shire of Chittering); and
- Best management practices are required to ensure sustainability as an area of local agricultural significance, with particular attention given to soil erosion risks.

##### Gidgegannup (Swan Hills East) LPA

- Retain the larger allotments predominant in the area for the purposes of horticulture (orchards), viticulture and broadacre grazing. The undulating nature of the terrain and patches of remnant vegetation enables horticultural activities to be interspersed with grazing as a mixed agricultural use area compatible with the 'General Rural' zoning;
- Ensure agricultural and other rural land uses are compatible with the nearby rural-residential settlement; and
- Prohibit encroachment of non-agricultural subdivision and land uses by restricting further fragmentation of rural lots.

## Land Use Allocation (to guide future revisions to the local planning scheme):

**Table 4. Land Use Allocation for Local Priority Agriculture**

Desirable	Acceptable with Council consent	Unacceptable
'Agriculture—Intensive' (closed systems in locations where priority drinking areas are within close proximity), 'Agriculture—Extensive'	'Animal Husbandry—Intensive', 'Industry—Rural', 'Industry—Extractive', 'Agroforestry' and small-scale tourist uses that are ancillary/subsidiary to the primary agricultural use of the land. Single dwellings.	Heavy industry and large scale commercial land uses which may impact on primary productivity. Sensitive and wide-ranging residential land uses.

## Subdivision and Development Criteria (to apply within all LPAs):

- There is a general presumption against the ad hoc fragmentation of rural land which is identified as having agricultural significance. It is considered to be a valuable resource.
- Land identified as Local Priority Agricultural land is to be retained for that purpose.
- Proposals to rezone land, subdivide or develop within the LPA precinct for any beneficial non-agricultural uses are to be accompanied by an Agricultural Impact Assessment, outlining the following:
  1. **No net loss of productive agricultural land:**
    - a) Whether the proposed use is an essential use of land identified as being of State, regional or local significance.
    - b) The agricultural significance of the area where the use is being proposed.
    - c) Alternative sites that have been considered for the proposed use and their suitability.
    - d) Whether the proposal will result in the loss of productive agricultural land, including land required for the following purposes (as appropriate)—
      - perennial horticulture (including viticulture);
      - annual horticulture;
      - grazing (irrigated and natural rainfall);
      - cropping (irrigated and natural rainfall);
      - tree plantations; and
      - aquaculture.
    - e) The impact of the use on the quantity and quality of surface and groundwater supplies available to existing and potential agricultural uses in the area.
    - f) Whether the new use will alienate adjacent agricultural land from the remainder of the agricultural area.
    - g) The impact on any processing or value-adding industries.
  2. **Manage land use conflict:**
    - a) Impact on agricultural or rural uses existing or permitted by the LPS17—either as of right or discretionary, on land in the area and potential impacts.
    - b) Effect that existing or potential agricultural and rural uses could have on the proposal.
    - c) Recommended buffers to existing and potential agricultural uses.
    - d) The ability of the proposal to accommodate impacts within its own lot boundary.
    - e) Other measures that can be undertaken to mitigate the effects of potential land use conflict.
  3. **Land and environmental management and rehabilitation:**
    - a) The capability of the land for the proposed use.
    - b) Proposals to reduce any limiting factors relating, but not limited, to biodiversity, water quality/quantity, soil erosion impacts etc.
    - c) The significance of any remnant vegetation on the site proposed to be cleared and whether the proposal has secured approvals for this land clearing.
    - d) The potential impact of the proposal on downstream uses.
    - e) Whether the site contains any contaminated land.
    - f) Design and management proposals to:
      - manage land degradation risks;
      - manage land uses for nutrient loss and erosion into on-site watercourses/bodies;
      - manage and rehabilitate degraded areas or environmentally sensitive areas, such as wetlands and remnant native vegetation;
      - remove and manage declared plants under the *Agriculture and Related Resources Protection Act 1976*;
      - remove neglected orchards or vineyards; and
      - manage stock.

### 3.4 General Rural Precinct

#### Objectives:

- a) To facilitate a diverse range of rural and agricultural activities and, complementary and compatible non-rural activities.
- b) To protect areas considered to be viable or capable of supporting primary production and other suitable rural land use activities such as extractive industries.
- c) To promote the development of sustainable primary production, ensuring rural and agricultural activities are managed to minimise impacts on natural resources such as capable soils, water quality and availability, and biodiversity.
- d) To accommodate low impact non-rural activities that are compatible with environmental, social and landscape values.
- e) To minimise risk to life and property by considering the prevailing threat of bushfire hazard in determining planning applications, ensuring development is in accordance with current best practice for bushfire protection and mitigation.

#### Land Use Allocation (to guide future revisions to the local planning scheme):

**Table 5. Land Use Allocation for General Rural and Agricultural Precincts**

Desirable	Acceptable with Council consent	Unacceptable
Low impact low intensity rural land uses, Agriculture ('Extensive' and 'Intensive'), Home Occupation, Home Office, Single Dwellings	'Animal Husbandry—Intensive', 'Industry—Rural', 'Industry—Extractive', 'Agroforestry' and small-scale tourist uses that complement the primary agricultural use of the land.	Commercial and predominantly residential land uses. Sensitive and hazardous land uses (particularly in bushfire prone areas).

#### Subdivision Criteria:

- General presumption against subdivision except where demonstrated as being required for agricultural land rationalisation to build up farm holdings, where lots are created without a dwelling entitlement, or are part of a proposal for amalgamation/subdivision.
- Any proposed lots shall have sufficient areas of arable, useable land to support agriculture and/or primary production in perpetuity, excluding portions of land that are not suitable for agriculture, such as environmentally significant riparian or remnant vegetation considered worthy of retention and/or conservation; streams, dams, wetlands; steep terrain or rock outcrops; setbacks to buffers where certain types of development or agriculture are not permitted and; any tourist developments located on the site.
- Use soil mapping data and land capability information to guide subdivision suitability.
- Horticulture and viticulture subdivision: minimum 20 hectares of soils with high to very high (Class I and II) capability for horticulture/viticulture where detailed agronomy and hydrology can demonstrate agricultural and environmental sustainability as well as achievement of minimum water requirements (groundwater allocation or surface water/dams) needed for anticipated primary production.
- Broadacre agriculture subdivision: minimum 50 hectares of soils with high to very high (Class I and II) capability for grazing where detailed agronomy and hydrology can demonstrate agricultural and environmental sustainability as well as achievement of minimum water requirements.
- In considering subdivision referrals from the WAPC, the City may recommend conditions which address particular land management and environmental management including, but not limited to: nutrient (phosphorus) export, protection of surface and ground water resources, conservation of remnant vegetation and biodiversity, application of buffers and establishing areas of revegetation as an offset to subdivision related development.
- Strata subdivision of tourist development in the 'General Rural' zone is not supported.
- Strata subdivisions may be considered in 'General Rural' and 'Landscape' zones where it is necessary to group dwellings and outbuildings to avoid negative impacts on native vegetation (i.e. cluster farms).



### 3.5 Rural Landscape

#### Objectives:

- a) To conserve biodiversity and ecological systems, recognising the natural landscape as a significant metropolitan asset that should be protected in perpetuity from gradual erosion of ecological values and character of the rural landscape.
- b) To provide regional ecological linkages and maintain biodiversity values of remnant vegetation with an emphasis on poorly represented vegetation, priority and Declared Rare Flora and riparian vegetation, in accordance with the City's LBS.
- c) To retain the natural character and visual amenity of the rural landscape, retaining remnant vegetation and topography through the appropriate location and design of buildings and considering land uses and developments that do not require extensive clearing for the purposes of bushfire mitigation.
- d) To minimise risk to life and property by considering the prevailing threat of bushfire hazard in determining planning applications, ensuring development is in accordance with current best practice for bushfire protection and mitigation.
- e) To facilitate low impact land uses and development at a scale that is compatible with environmental and landscape values, considering the cumulative impact of clearing requirements under the *Bush Fires Act 1954* (as amended).

**Land Use Allocation** (to guide future revisions to the local planning scheme):

**Table 6. Land Use Allocation for Rural Landscape**

Desirable	Acceptable with Council consent	Unacceptable
Bed and Breakfasts, Home based business and 'Single Dwelling'	Intensive and Extensive 'Agriculture', Industry— 'Rural' and 'Cottage', Extractive Industries, 'Agroforestry', small-scale tourist uses (chalets, cabins and camping areas etc.) that complement primary production of the land and address the landscape and environmental qualities of the immediate and surrounding area.	'Industry—Rural', Intensive 'Animal Husbandry', commercial and predominantly residential land uses. Sensitive and hazardous land uses (particularly in bushfire prone areas).

#### Development:

- The City will have due regard for the following matters when considering developments and land use, including extractive industries, in the Rural Landscape Precincts:
  - The likely impact on the visual amenity of the area as seen from public roads, avoiding steep slopes and ridgelines, and ensuring any vegetation worthy of retention is considered;
  - Impact of vehicle movements and access to the site and around the site. In this regard, the City may require the submission of a traffic impact assessment to be carried out by a suitably qualified traffic engineer as part of a development application;
  - Environmental impact such as erosion (including soil erosion), on site drainage, dieback mitigation and plans for rehabilitation of topsoil and on-site vegetation during, and following cessation of operations. The City may require the submission of Environmental Management Plans and a Landscaping and Rehabilitation Plan to be prepared by a suitably qualified person; and
  - The existing character and amenity of the area shall not be compromised as a result of the proposed development.

### Subdivision Criteria:

- Lot area range 20–50 hectares in the ‘Landscape zone’ where the following can be demonstrated through the submission of a structure plan:
  - Protection of the regionally and locally significant scenic and natural landscape qualities of the Darling Scarp, Dandaragan Plateau and other visually sensitive areas;
  - Avoid development and subdivision which increases fire risk through inappropriate location or design or requires significant clearing to maintain an acceptable level of bushfire risk; and
  - Cluster strata-title subdivisions may be supported where there is a benefit to maintain biodiversity or landscape values, supported by a Council endorsed Environmental Management Plan and relevant State Planning Policies.
- Where in the opinion of the City a structure plan is not required (pursuant to Clause 5A 1.4.2 of LPS17) the following minimum sizes shall apply for any subdivision:
  - Horticulture and viticulture subdivision: minimum 20 hectares of soils with high to very high (Class I and II) capability for horticulture/viticulture where detailed agronomy and hydrology can demonstrate agricultural and environmental sustainability as well as achievement of minimum water requirements (groundwater allocation or surface water/dams) needed for anticipated primary production;
  - Broadacre agriculture subdivision: minimum 50 hectares of soils with high to very high (Class I and II) capability for grazing where detailed agronomy and hydrology can demonstrate agricultural and environmental sustainability as well as achievement of minimum water requirements; and
  - Subdivisions to create ‘Conservation’ zone allotments: establish a minimum area of 10 hectares to be set aside specifically for the purposes of conservation or biodiversity retention and the balance of lot(s) to retain sufficient usable (arable) areas of land.
- Strata subdivision of tourist development in the ‘General Rural’ zone is not supported. Where supported in the ‘Landscape’ zone, strata subdivision shall be in accordance with WAPC and City of Swan policy provisions and guidelines. Strata subdivisions of tourist accommodation are limited to the immediate curtilage/footprint of individual chalets or accommodation units.
- Strata subdivisions may be considered in ‘General Rural’ and ‘Landscape’ zones where it is necessary to group dwellings and outbuildings to avoid negative impacts on native vegetation (i.e. cluster farms).

## 3.6 Industrial Investigation Area

The Local Rural Planning Strategy Precinct Map (Figure 8) depicts a hatched area representing an Industrial Investigation Area. Whilst not defined as a planning precinct for the purposes of this Strategy, the area is delineated in the LRPS and requires strategic consideration as it has been identified in State level strategies and the sub regional planning framework as proposed industrial centres. The area to the west and south of Bullsbrook (including North Ellenbrook) has been classified for either industrial expansion or investigation. The additional areas of industrial land have been identified based on average projected demand for industrial land within the sub-region.

The Industrial Investigation area near Bullsbrook is strategically located and has the potential to provide interconnectivity with the existing and proposed regional transport network. The area identified as the Industrial Investigation Area has not previously been identified for industry and more detailed planning is required to confirm its suitability for industrial use in the longer term. The Strategic Assessment of the Perth and Peel Regions currently being undertaken by the State Government, providing some direction for the suitability of these uses. As such, the area has been identified as industrial investigation in the State planning framework.

# Part 2: Background and Context

## 1. State and Regional Planning Context

### 1.1 State Planning Strategy

The *State Planning Strategy 2050*, launched in June 2014, offers a framework of planning principles, state strategic goals and direction which serves as a guide for future planning and development decisions in Western Australia for both local and state government, which responds to the challenges and opportunities put forth by the drivers of change within the state.

The State Planning Strategy 2050 contains the following six key principles, which include:

1. **Community:** to enable diversity, increase affordability and accessibility, and to enhance the safety for the betterment of communities.
2. **Economy:** to facilitate and enhance global trading and investment, utilising existing competitive advantages and to allow for an innovative and competitive economy.
3. **Environment:** to protect and conserve the natural and cultural State's assets through increased sustainable development.
4. **Infrastructure:** to ensure that adequate infrastructure, both physically and socially, are provided that supports the increasing growth and future development.
5. **Regional Development:** to assist and guide development within regions by enhancing and capitalising on their competitive and collaborative advantages, to accommodate for future regional growth.
6. **Governance:** to ensure that an efficient, coordinated and collaborative approach is undertaken which also aims to enhance government transparency and accountability.

### 1.2 State Planning Framework

#### 1.2.1 Statement of Planning Policy 1 — State Planning Framework

*State Planning Policy No. 1 'State Planning Framework'* brings together existing State and regional policies and plans which apply to land use and development within Western Australia. It also restates and expands upon the key principles of the State Planning Strategy in planning for sustainable land use and development.

#### 1.2.2 State Planning Policy No. 2 Environment and Natural Resources

Integrated land use planning and management is a practical way to achieve effective and efficient use of the natural resources of the State. This policy defines the principles and considerations that represent good and responsible planning in terms of environment and natural resource issues within the framework of the State Planning Strategy. Specific objectives of the policy seek the integration of 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. Measures of the policy recognise the significance of natural resources, and should be read in conjunction with the more specific statements of natural resources that follow.

#### 1.2.3 State Planning Policy No. 2.2 Gnamara Groundwater Protection Policy (2003)

The policy provides the guidance on the compatibility of land uses in defined priority drinking source protection areas related to the Gnamara Mound. It establishes the planning requirements that need to be considered prior to rezoning, development or subdivision. The priority water source protection areas dictate the zoning to control water pollution over the Gnamara Mound. Priority 1 water source protection areas will be reserved for 'Water Catchments' and Priority 2 water source protection areas will be zoned for 'Rural—Water Protection'.

#### 1.2.4 State Planning Policy No. 2.4 Basic Raw Materials (2000)

SPP 2.4 is designed to facilitate the extraction of basic raw materials (such as sand, limestone, gravel and hard rock), close to the major markets in the metropolitan region and to avoid sensitive development close to basic raw material resources which could otherwise restrict the extraction of those resources. The policy seeks to ensure the extraction of resources has minimal local and environmental impacts, including regionally significant vegetation (Bush Forever sites) and in such a manner that allows for future use and development consistent with the strategic planning intentions of an area. The policy specifically applies to the City of Swan (and other local governments containing basic raw materials) as defined in the Resource Protection Map.



### 1.2.5 State Planning Policy No. 2.5 Land Use Planning in Rural Areas (2012)

This policy supersedes *State Planning Policy No. 2.5 'Agriculture and Rural Land Use Planning (2002)'* (SPP 2.5 [2002]) which previously regulated land use planning in rural areas. The policy applies to land zoned for rural or agricultural purposes in the City's LPS17 and for those lands which are identified or proposed for rural living land uses under this strategy. Rural land resources are becoming increasingly contested, particularly at the urban fringe in close proximity to Perth's metropolitan area, leading to competition and conflict. SPP 2.5 (2012) supports both rural and rural living land uses to cater for both anticipated and unexpected future needs.

Key objectives of the policy are to:

- a) To protect rural land from incompatible uses by:
  - i) requiring comprehensive planning for rural areas;
  - ii) making land use decisions for rural land that support existing and future primary production and protection of priority agricultural land, particularly for the production of food; and
  - iii) providing investment security for the existing and future primary production sector.
- b) To promote regional development through provision of ongoing economic opportunities on rural land.
- c) To promote sustainable settlement in, and adjacent to, existing urban areas.
- d) To protect and improve environmental and landscape assets.
- e) To minimise land use conflicts.

Specific policy measures relating to the above objectives are outlined in the policy, including principles that the WAPC consider critical in achieving a balance between land uses and natural resources even in the absence of local planning controls. The policy is to be applied throughout State and local government planning decision-making in conjunction with other State planning policies such as *Development Control Policy 3.4 'Subdivision of rural land'* (DC 3.4). In the absence of an endorsed strategic or statutory planning instrument in place to guide decision-making, the intent and measures of SPP 2.5 (2012) shall apply.

### 1.2.6 State Planning Policy No. 2.7 Public Drinking Water Source Policy (2003)

The policy addresses land use and development in public drinking water supply areas, namely the Gnangara Mound underground aquifer, which are under pressure from competing uses including industry, intensive agriculture, landfill sites and urban development. Careful consideration needs to be given so that land use and development prevents groundwater and surface water pollution to vital drinking water resources. The Department of Environment (DoE) is responsible for the protection of water resources used for public drinking water supplies throughout Western Australia.

The MRS provides two ways of protecting groundwater: applying Water Catchment reservations over areas where protection of the water source is the prime consideration in the use of the land; and, defining Rural Water Protection zones over areas to be managed so there is no increased risk of pollution to the water source. Water quality protection is assisted in Underground Water Pollution Control Areas (UWPCAs) by prioritising land to address the strategic

importance of the water source in relation to land tenure and development. Priority 1 (P1) areas cover land where protection of the water source is the prime consideration and will normally apply to land owned by the State, such as forests. P1 areas are managed with the principle of risk avoidance. Water Catchment reservations are applied to land defined as P1 areas. Priority 2 (P2) areas cover land where there is low-risk development, such as low intensity rural areas, or where development with conditions is allowed so risk of pollution to the water source is minimised.

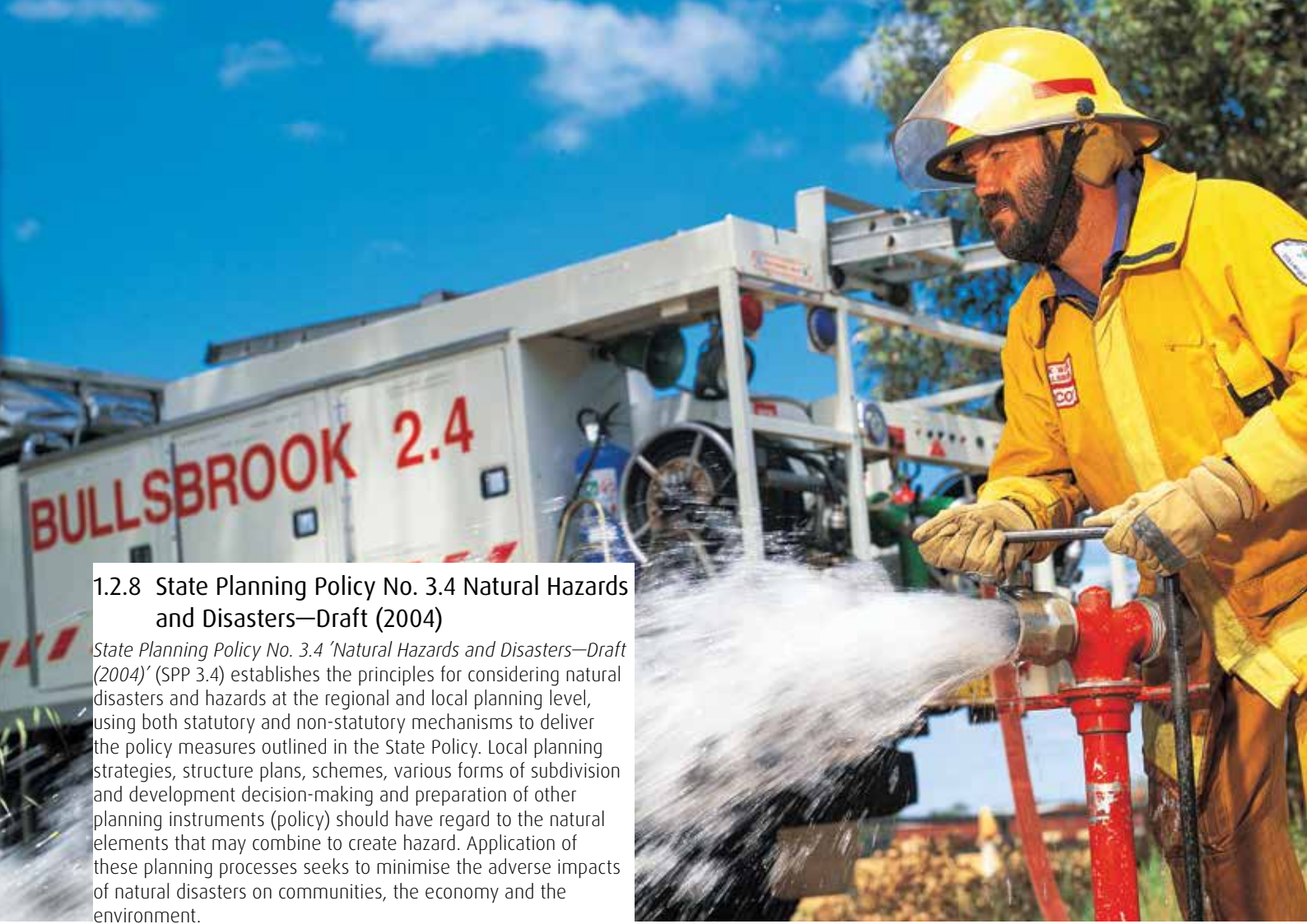
All P1 land in Swan applies to State Forest and Regional reserves, including Whiteman Park, therefore does not directly influence freehold land use and development in that area. P2 areas are defined by Rural Water Protection Zones in the MRS and affect some portions of rural land to the north western quadrant of the City. Allocation of land use and precinct requirements for the strategy should consider the public drinking water catchment areas.

### 1.2.7 State Planning Policy No. 2.9 Water Resources—Draft (2004)

The policy provides guidance in the planning, protection and management of surface and groundwater catchments, including consideration of availability of water and waterways management, wetlands, waterways and estuaries and their buffers. The policy is a second-tier State Planning Policy, under *State Planning Policy No. 2 Environment and Natural Resources*, it is intended to expand the broad water resources guidance provided in that State Planning Policy. It is inclusive of all water resource values: economic, social, cultural and environmental.

The policy provides clarification and additional guidance to planning decision-makers for consideration of water resources in land use planning strategies, proposals and applications for example local planning strategies, structure plans, town planning schemes and amendments, subdivisions and development applications, and other town planning mechanisms.





### 1.2.8 State Planning Policy No. 3.4 Natural Hazards and Disasters—Draft (2004)

*State Planning Policy No. 3.4 'Natural Hazards and Disasters—Draft (2004)'* (SPP 3.4) establishes the principles for considering natural disasters and hazards at the regional and local planning level, using both statutory and non-statutory mechanisms to deliver the policy measures outlined in the State Policy. Local planning strategies, structure plans, schemes, various forms of subdivision and development decision-making and preparation of other planning instruments (policy) should have regard to the natural elements that may combine to create hazard. Application of these planning processes seeks to minimise the adverse impacts of natural disasters on communities, the economy and the environment.

## 1.3 Development Control Policies

The WAPC's Development Control Policy Manual includes a variety of policies in the context of general issues, and issues specific to rural land use and development such as environment and amenity. The following Development Control Policies are applicable to the rural parts of the City of Swan.

### 1.3.1 Development Control Policy 3.4 Subdivision of Rural Land (2012)

DC 3.4 establishes the principles and criteria used by the WAPC when determining applications for subdivision in rural land and support the objectives of SPP 2.5 (2012), to protect agricultural land, plan for rural settlement, minimise land use conflict and manage natural resources etc. The policy provides guidance for various types of subdivision of rural and agricultural land, including policy measures for non-agricultural subdivision (i.e. rural-residential allotments). Any landowner or applicant considering subdivision of rural lots will be required to demonstrate how the principles of DC 3.4 can be satisfied. Appendix 3 of DC 3.4 outlines the information normally required by the WAPC to support an application for subdivision in rural land. Applicants of rural subdivision are encouraged to seek understanding of the requirements of DC 3.4.

### 1.3.2 Development Control Policy 4.2 Planning for Hazards and Safety

Natural disasters and hazards are an inherent feature of rural areas, particularly given the prevalence of bushfire prone

land and limited infrastructure in isolated parts of the City of Swan. Land use planning needs to consider hazardous land use activity where there is a real or perceived level of risk. *Development Control Policy 4.2 'Planning for Hazards and Safety'* (DC 4.2) provides guidance to local government and developers in planning to prevent potential hazardous events and to mitigate the effect of any such events, should they occur and ensuring that the appropriate procedures are followed in the consideration of proposals.

DC Policy 4.2 states that development of land for residential or intensive rural uses should take account of fire hazard with development being strongly discouraged in high hazard areas (i.e. bushfire prone areas). Areas in which fire control measures (firebreaks, buffer zones, fire access tracks, water supplies and fire suppression arrangements) cannot be practically met should be avoided for development.

## 1.4 Directions 2031

Directions 2031 is a high level strategic plan that establishes a vision for future growth of the Perth and Peel region, and provides a framework to guide the detailed planning and delivery of housing, infrastructure and services necessary to accommodate that growth. Directions 2031 provide the framework for which the City of Swan will plan the growth of urban areas until 2031 and provides the basis for the identified Future Urban precincts in this strategy. Additional urban areas are normally subject to MRS amendments and structure planning processes which resolve detailed planning issues such as servicing constraints and delivery of community infrastructure.

## 1.5 Perth and Peel Green Growth Plan for 3.5 million (draft)

The Perth and Peel Green Growth Plan for 3.5 million (GGP) proposes to support the growth of an expanding population in the region, expected to reach 3.5 million people by 2050. The GGP delivers The Green Growth Plan delivers a comprehensive environmental program for the protection of both Commonwealth matters of national environmental significance and State environmental values.

This includes:

- identification of 170,000 ha of new and expanded conservation reserves in Perth and Peel regions and immediate surrounds, including improved protection and management of Bush Forever sites and establishment of Peel Regional Park;
- implementation of critical steps to cut nutrient run-off into the Swan Canning and Peel Harvey estuaries and ensure the health of these systems over the long-term; and
- implementation of a program of on-ground management to improve protection and management of threatened species, wetlands of international significance and threatened ecological communities.

The suite of draft Green Growth Plan documents provides a comprehensive approach to the avoidance and mitigation of environmental impacts and a Conservation Program that will deliver significant improvements to the protection and management of the environment as the Perth and Peel regions grow to a population of 3.5 million people. Mapping of the spatially related conservation commitments from the various Action Plans of are available online and have been considered during the preparation of the Local Rural Planning Strategy.



## 1.6 North East Sub Regional Planning Framework

The North-East sub-region comprises the City of Swan and the shires of Mundaring and Kalamunda and covers 2,010 square kilometres. The draft North-East Sub-regional Planning Framework (NESRPF) considers where future homes and jobs will be located; what community and social infrastructure will be required; better integrated use of existing infrastructure; protection of important environmental assets and critical services; and staging and sequencing of future development. The NESRPF forms an integral part of the Perth and Peel @3.5 million strategic suite of planning documents which seek to ensure there will be sufficient suitable land identified for future housing and employment to accommodate population growth. Pertinent to the LRPS, the NESRPF specifically seeks to retain land for rural purposes and protect areas with basic raw materials for timely extraction whilst seeking to protect areas with regional conservation and landscape value.

The NESRPF will form the basis of State government approach to managing the future urban form within the sub-region and is subject to further refinement prior to finalisation and endorsement as a sub-regional structure plan.

## 1.7 Metropolitan Region Scheme

The MRS defines the future use of land, dividing it into broad zones and reservations. It requires local government town planning schemes to provide detailed plans for their part of the region which are required to be consistent with the MRS. The MRS covers the Perth Metropolitan area from Singleton in the South, Two Rocks in the North, and the Cities of Swan, and Armadale, and the Shires of Mundaring, and Serpentine Jarrahdale in the East.

The MRS defines the extent of rural land in the City of Swan, in addition to peri-urban areas identified as 'Urban Deferred', which are in the process of being urbanised. The MRS also defines Bush Forever sites, State forests and parks and recreation, as well as public drinking water catchments areas applicable in Swan.

## 1.8 Swan Valley Planning Act 1995

The SVP Act 1995 establishes three planning areas within the Swan Valley (Areas A, B and C), each with specific planning objectives in order to provide a framework to consider development and planning in the Swan Valley Region. The general planning objectives for the Swan Valley under the Act are: encouragement of the traditional agricultural and other productive uses; the protection of the environment and the character; the reduction of nutrient levels in the Swan River; and, the promotion of tourism in the area.

The Swan Valley Planning Committee was created under the Act and advises the City of Swan and WAPC on land use planning and land development in the Swan Valley. The committee is charged with prescribing planning and development objectives for the various parts of the valley in accordance with the general objectives of the Act. When applications are received for development approval in the Swan Valley, the City is required under the Act to refer the application to the committee who then provide its advice on how the application should be determined, including any conditions which the approval should be made subject. The City gives due regard to the advice of the committee in determining development applications.

## 1.9 Swan and Canning River Management Act 2006 and the Swan and Canning Rivers Management Regulations (2007)

The Swan and Canning Rivers Management Act (the Act) (2006) creates the Swan Canning riverpark encompassing the waters and foreshores of the Swan Canning river system. The legislation facilitates the management of the Swan River through conservation, protection and promotion of Western Australia's unique national parks and reserves by the Department of Parks and Wildlife. The functions of the Swan River Trust are retained with decision making responsibilities as an advisory body for the Minister of Environment, with subsequent management responsibilities being undertaken by the Department of Parks and Wildlife.

The Swan and Canning River Management Act and relevant Regulations shall be given consideration when considering applications for developments. The Department of Parks and Wildlife provides advice to the City of Swan on local planning scheme amendments or other proposals that may affect the Swan Canning Development Control Area (DCA) as identified under the Act. The decision making powers of the WAPC to determine applications for development of land abutting land in the DCA or development likely to affect waters in the DCA, are delegated to the City of Swan.

## 1.10 Swan Valley Planning Legislation Amendment Act 2006

This act was intended to provide a strengthened framework to the SVP Act to ensure it remains as a place of beauty and a recreation destination, in perpetuity. At the time of gazettal, amendments to the previous Act were made such as the omission of 'Area D' which was considered to have potential for urban development based on physical attributes of the land and existing land uses, servicing infrastructure requirements and community infrastructure requirements.





## 1.8 Other relevant Policy and Legislation

### 1.8.1 Rural Planning Guidelines (Feb 2014)

Following the review of SPP 2.5 (2012) and DC 3.4 which governs planning decision-making for rural land in Western Australia, it was acknowledged that a document was required to provide guidance to the implementation of the policies and to explain the context of policy provisions. The guidelines, produced by the WAPC are a response to the need for changes in rural planning, in particular how rural living (rural residential and rural smallholdings) developments and subdivision are dealt with and assessed. The guidelines further clarify the intent and interpretation of SPP 2.5 (2012) and DC 3.4 and are intended for use in the preparation or review of local planning strategies and Scheme amendments, structure plans and other planning instruments such as local planning policies.

### 1.8.2 Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002

The Western Swamp Tortoise (*Pseudemydura umbrina*) is one of the most endangered tortoise species in the world. Remnant populations exist in two natural habitats (Ellen Brook and Twin Swamps Nature Reserves) located within the City of Swan's rural land. The majority of the original western swamp tortoise habitat has been lost to urbanisation and the remaining two natural habitats are under threat from a range of human activities. The EPA developed the *Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002* (Western Swamp Tortoise Habitat EPP) which was gazetted on 18 February 2003. The Western Swamp Tortoise Habitat EPP identifies an area that constitutes tortoise habitat and lists activities that might degrade this habitat.

Under the legislation, the EPA is required to:

- Review the existing Western Swamp Tortoise Habitat EPP;
- Prepare a new draft policy for public comment; and
- Submit a revised draft policy to the Minister for Environment.

Accordingly the EPA has prepared a document on the EPA's review of the existing Western Swamp Tortoise Habitat EPP for public comment. The review's key findings were that;

- a) The western swamp tortoise is expected to remain 'critically endangered' (International Union for Conservation of Nature's 'Red List') in the medium to long term.
- b) Threats to the populations of the western swamp tortoise in the current EPP area are likely to either remain or increase due to the intensification of land uses in the surrounding areas.
- c) There is a need to improve the administration relating to this EPP such as clearer and stronger local government planning regulations.

In light of these findings it is the EPA's view that the Western Swamp Tortoise Habitat EPP be retained in its current form. In addition it is also recognised that 'Special Control Areas' would be useful to be incorporated into the City of Swan's LPS17. Special Control Areas would complement the current EPP and give the City of Swan more control over actions that could damage western swamp tortoise habitat. The EPA, City and Department of Planning are currently working together to determine an appropriate mechanism to address this recommendation.

### 1.8.3 Environmental Protection and Biodiversity Conservation Act 1999

Australia's central piece of environmental legislation, the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a framework for the protection of the environment, including biodiversity and significant natural and culturally significant places. The EPBC Act protects threatened species and their habitat against an 'action' (on-the-ground disturbance). If there is potential for adverse impacts on the Western Swamp Tortoise or its habitat (including translocated habitats), an approval is required from the Commonwealth Minister for the Environment prior to the commencement of on-site works.





The EPP differs from the EPBC Act in that the EPP defines an area that contains the Western Swamp Tortoise habitat, as well as areas that are not considered to be Western Swamp Tortoise habitat but could affect the habitat should detrimental factors be conducted in that area.

The Australian Federal and Western Australian Government have formally agreed to undertake a comprehensive strategic assessment of the Perth metropolitan region in accordance with section 146 of the EPBC Act. The strategic assessment enables a strategic approach to environment and heritage protection that provides greater certainty in the long-term, by determining the areas to be protected from development and where 'sustainable' development can go, the type of development and land use that will be allowed and the conditions under which development may proceed.


#### 1.8.4 The Swan Region Strategy for Natural Resource Management (Dec 2004)

Much of the City's rural land falls within the Swan Region which encompasses the City of Perth and the immediate surrounds. The Region has an indigenous cultural history closely linked to the land. The Nyoongar traditional owners have a sense of place and a linkage to the land which the Swan Region Strategy for Natural Resource Management has built upon.

By using traditional management regimes the Nyoongar people managed the natural resources to sustain the people for 40,000 years. In just over two hundred years following European settlement, the waterways are troubled with algal blooms, introduced weeds clog the native vegetation, most of the native mammals are regionally extinct and many other species are threatened with extinction. To build on this, the challenge unique to the Swan Catchment Council is to create an opportunity and a process that will promote the sustainable use of natural resources to support a city of nearly one and a half million people.

Outlined below are the seven Aspirational Targets this Strategy sets out for the Region's natural resources and their sustainable management. These have been developed through a participative community consultation and stakeholder engagement process to reflect local, regional and institutional priorities, and achieve sustainable natural resource management outcomes.

- Improve land condition in the Region and ensure land use planning and development is sustainable and appropriate to the land capability and suitability.
- Improve the quality, ensure appropriate and environmentally sustainable use and minimise impacts to maintain water resources in all aquatic systems in the Region.
- Conserve, maintain and enhance the biodiversity and natural habitat of all species in the Region and the functionality of the ecosystems which contain these species.
- Conserve, maintain and enhance coastal and marine biodiversity, and improve marine water quality to ensure the ecological integrity of coastal and marine systems.
- Improve air quality in the Region to ensure healthy ecosystems.
- Protect, enhance and incorporate cultural heritage values within the Region to achieve sustainable natural resource management outcomes.
- Build regional capacity to promote attitudinal, behavioural and institutional change to achieve sustainable natural resource management outcomes.

A photograph of a Western Swamp Tortoise resting on the ground. The tortoise is positioned in the lower half of the page, facing right. It has a brown, textured shell and a light brown body. The ground is covered with dry, reddish-brown leaves and twigs. The background is a blurred natural setting.

**Conserve, maintain and enhance the biodiversity and natural habitat of all species in the Region and the functionality of the ecosystems which contain these species.**

## 2. Local Planning Context

### 2.1 Bullsbrook Townsite Land Use Master Plan

The Master Plan provides planning guidance for the future urban growth of Bullsbrook. The Master Plan provides the strategic basis and guidance through identifying appropriate land use zoning and the extent of future urban growth which will support future regional and LPS17 amendments.

The Bullsbrook townsite is, currently, relatively disconnected from other urban areas within the Perth metropolitan region. In order for the WA State Government (State Government) medium to long-term population growth targets of over 20,000 people to be realised, a strategic planning framework (i.e. the Master Plan) should be established to guide growth. The Master Plan aims to steer the development of a self-sufficient townsite, which provides for diverse land uses and basic infrastructure needs, whilst considering the natural environment and existing major land uses including the Royal Australian Air Force Pearce Airbase, various resource extraction operations and adjacent agricultural and horticultural activities.

For the purposes of urban land use planning, the area included in the Master Plan study area has been delineated in the 'Future Urban' precinct of the LRPS. More detailed, local level structure plans will be required to guide development of those areas identified in Future Urban precincts; considering the likely impacts on surrounding primary production and other rural land uses.

### 2.2 Local Planning Scheme

The City of Swan LPS17 was gazetted on February 18 2008 following a review to consolidate the pre-existing scheme provisions under Town Planning Scheme 9, and modify the scheme to include the model scheme text provisions.

The aims of the scheme are to:

- a) Provide for a range of compatible housing and associated development, in neighbourhoods with a community identity and high levels of safety and amenity;
- b) Provide for safe, convenient, attractive and viable commercial centres, which serve the needs of the community and are accessible to pedestrians, cyclists, public transport users and motorists;
- c) Encourage development that will strengthen the economic base of the District and provide convenient and efficiently located employment for the community;
- d) Ensure coordinated and efficient use and development of land within the District, and to avoid ad hoc development that would result in land use conflicts, excessive travel and/or transport demand or adverse impacts on the environment;
- e) Protect and enhance the quality of the urban and rural living environments of the District, and to provide for such development as is consistent with the maintenance of efficient services and amenities within the District;
- f) Promote the health, safety, convenience and the economic and general welfare of the community, and to ensure the use and development of land does not result in the significant adverse impacts on the physical and social environment;
- g) Promote the judicious management of natural resources of particular regional and local significance including bushland, water catchments, waterways, agricultural land and basic raw materials, and to promote the protection of air quality; and
- h) Protect objects and places of particular natural, historic, architectural, scientific and cultural significance.

Rural Land within the City of Swan comprises the following zoning categories under LPS17; 'General Rural', 'Landscape', 'Resource', 'Rural Living', 'Rural-Residential', 'Special Rural' and 'Swan Valley Rural'. Land within these zoning categories is reflected by the precincts defined in the LRPS.



## 3. Local Rural Land Use Profile

Rural areas comprise approximately 60% of the City of Swan municipality, covering more than 610km<sup>2</sup>. The City's rural areas accommodate a variety of agricultural land use activities including broadacre farming, intensive horticulture/viticulture and poultry farming. It also accommodates a variety of essentially non-agricultural land uses ranging from rural smallholdings or hobby farms through to lifestyle housing or rural-residential lots, as well as extractive industries associated with its urban fringe setting.

### 3.1 Natural Resources

#### 3.1.1 Regional Geology and Geomorphology

The City of Swan encompasses portions of two distinct geological provinces, the Yilgarn Block and the Perth Basin. The Darling Scarp is the surface expression of a major regional fault line (the Darling Fault) which separates the mainly igneous and metamorphic rocks of Archaean age within the Yilgarn Block to the east, from the geologically more recent sedimentary material of the Perth Basin to the west (Wilde and Low 1978). Geomorphic regions have distinct landform features and soils that relate to variations in the underlying geology, topography and drainage patterns. Portions of three geomorphic regions are contained within the City of Swan. They are the Darling Plateau, the Dandaragan Plateau, and the Swan Coastal Plain. The Darling Plateau occurs over the Yilgarn Block to the east, the Dandaragan Plateau occurs over a relatively small area of the Perth Basin's Mesozoic rocks to the north, and the Swan Coastal Plain occurs over the Perth Basin's Quaternary surface deposits to the west.

#### Darling Plateau

The Darling Plateau, occupying the larger eastern portion of the City of Swan, has a broadly undulating surface at around 300–400 metres Australian Height Datum. The plateau was once extensively mantled by Tertiary (Cainozoic age) laterite and associated weathering products, overlying the Archaean age 'basement rocks' of the Yilgarn Block.

Although the Darling Plateau is now substantially dissected by major drainage systems, including the Brockman River, Avon River, and Wooroloo Brook, gravelly remnants of the lateritic surface occur in the upper parts of the landscape and along drainage divides. Lower in the landscape the steep-sided valley landforms contain generally more clay soils derived from weathering of the predominantly granitic basement rocks that are locally intruded by dolerite dykes. Within the City of Swan, the Darling Plateau can be further divided into three geomorphic elements; the lateritic uplands, the moderately dissected areas, and the major valleys.

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The City has significant nature-based tourism with National Parks, State Forests, nature reserves, walk trails and the Swan River.

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## Dandaragan Plateau

The Dandaragan Plateau is lower and less dissected than the Darling Plateau. It stands some 200 to 300 metres above sea level in the central part of the Perth Basin and extends in a narrow wedge-shaped block generally north of Bullsbrook. The Dandaragan Plateau is a flat to gently undulating sand and laterite-capped plateau overlying sediments (commonly sandstones) of Mesozoic age. Within the City of Swan it can be divided into two geomorphic elements; a gentle scarp; and sandy (lateritic) uplands. Sandplain features dominate, and the western margin of the Dandaragan Plateau is formed by the Gingin Scarp, a moderately sloping topographical feature formed by shoreline erosion and rising some 90 metres above the adjacent Swan Coastal Plain.

## Swan Coastal Plain

The Swan Coastal Plain is a lower-lying area of flat to gently undulating terrain extending to the west of both the Darling and Gingin Scarps and across to the coast. Within the City of Swan it consists of Quaternary surficial deposits of largely Aeolian and fluvial origin, and can be divided into three elements:

- The Ridge Hill Shelf, along the foothills of the Darling Scarp with a mix of laterite, clay and sandy sediments;
- The Pinjarra Plain, a flat to very gently undulating system of alluvial fans, floodplains and channels to the west of the Ridge Hill Shelf; and
- The Bassendean Dunes, an undulating sandplain with low hills of grey quartz sand and associated swampy hollows varying in relief from 20 metres to almost flat and occurring between the Pinjarra Plain and the sand dune systems of the Coastal Belt.

The south western corner of the City of Swan also encompasses a very small portion of the inland part of the Coastal Belt (Spearwood Dunes, comprising hills of yellow siliceous sand formed over a limestone core).

## 3.2 Land Use

### 3.2.1 Agriculture

Agricultural activity within the City can be summarised as follows:

- The total Gross Value of Production (GVP) for agriculture in the City of Swan in 2011–12 was \$36.3M with the major direct economic contributors being plant nurseries, viticulture, and cattle and sheep rearing.
- Agriculture in the City of Swan is probably most widely associated with viticulture in the Swan Valley and the ABS data showing 707 hectares under grapes (for either wine or table grapes) and a combined GVP of around \$10M.
- The Swan Valley Land Use and Management Discussion Paper WAPC (2012a) highlights that the Swan Valley supports an integrated economy with a gross income in the order of \$200M per year, and that a substantial portion of the overall economic activity is underpinned by a common asset: agri-business, particularly agri-tourism, based on viticulture and the associated vineyards (over a reported 1,056 hectares actual area).
- Dryland (rain-fed) cropping and grazing are the most extensive land uses in area terms over the rural portions of the City of Swan. However these are of lesser overall economic value than the more intensive forms of agriculture, particularly irrigated viticulture, plant nurseries, and poultry farms.
- Hay production, from pasture or cereal crops, was undertaken over 1125 hectares of rural land, while broadacre crops (predominantly wheat and canola) occupied 599 hectares.
- Grazing commonly occurs as a pasture phase of a cropping grazing rotation with sheep numbers at just over 12,000, being about double that for cattle.
- The GVP for livestock (slaughtered and other disposals) was \$10.3M in 2011–12.
- Nurseries and turf production occur over about 142 hectares of land within the City of Swan with a GVP of \$14.8M. This is higher than that directly generated from viticulture but without the associated agri-tourism economic benefits.
- Annual horticulture (vegetable production) occurs over a significantly smaller portion of the City of Swan compared to perennial horticulture (viticulture and orchards). ABS reports a 49 hectare area with a GVP of \$1.2M and producing mainly lettuce and broccoli.



- The City of Swan contains a number of poultry farms for egg and poultry meat production, with ABS data showing a GVP of \$1.4M for eggs produced for human consumption in 2010-11.
- Equestrian activities include horse training, agistments, breeding and dealing and rural portions of the City of Swan represent a popular location for the industry due to availability of grazing land, and proximity to city racing and trotting venues. The City of Swan had 33 horse studs in 2005/06 and is also the location of the State Equestrian Centre in Brigadoon.

Agriculture is facing a range of pressures which include declining profitability and the associated need for enterprise diversification and intensification. There is also increasing awareness of environmental issues, land use conflicts, and the need to manage land in a more sustainable manner.

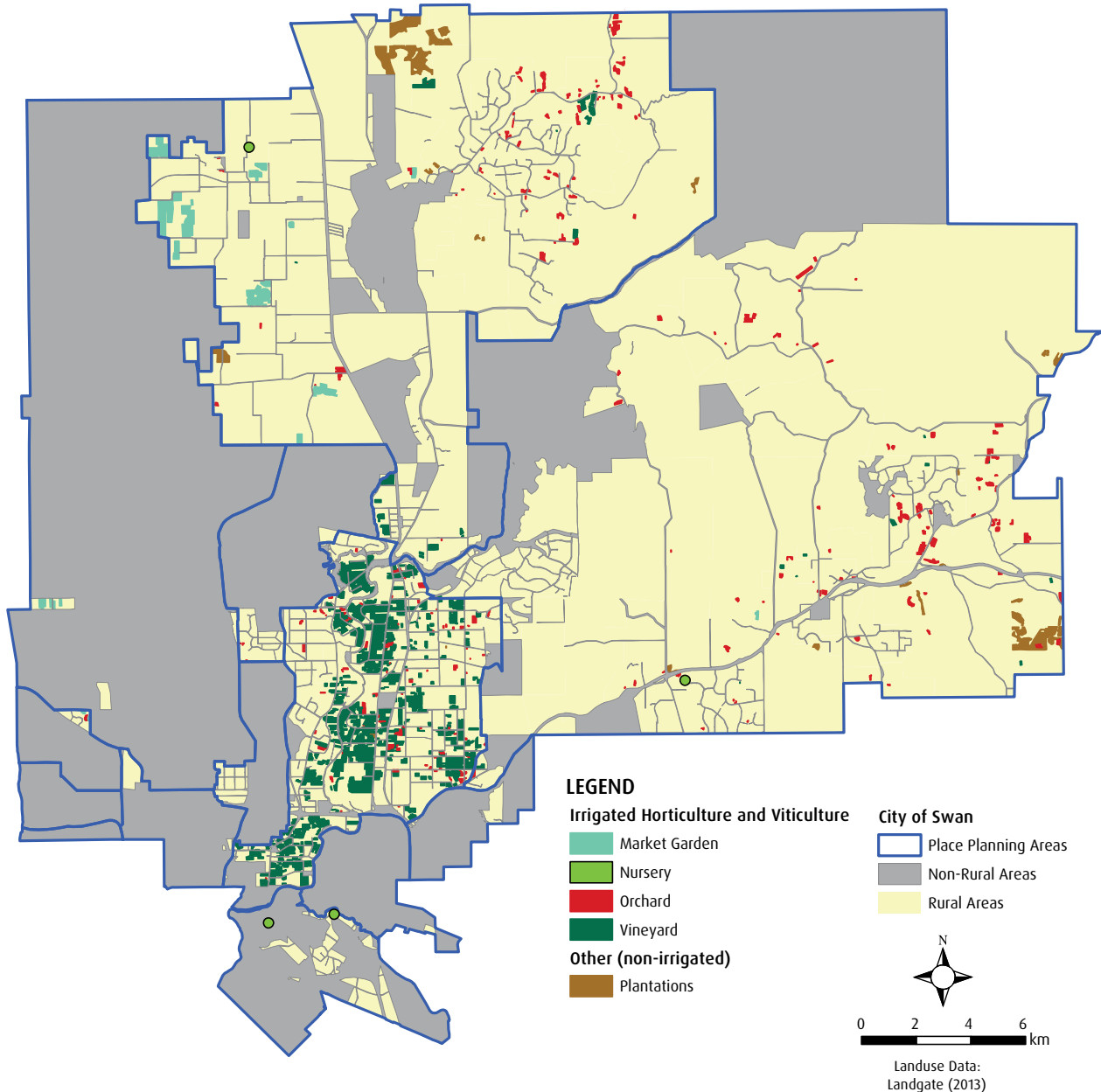


Figure 10. Existing Horticulture and Viticulture Land Use

### 3.2.2 Residential Activity

In addition to agricultural production, extensive areas of the City of Swan's rural lands are used for low density forms of residential land use. This includes land zoned 'Rural Living', 'Rural-residential', and 'Special Rural' as well as small rural holdings or 'hobby farms' primarily located within the 'Swan Valley Rural', or 'Landscape' zoning categories. While rural pursuits may be undertaken within all of these zones (albeit requiring Council consent) the common feature is that the primary land use is residential in nature with agricultural activities undertaken as a supplementary, and often non-commercial, activity.

These forms of rural-residential development are commonly viewed as a 'loss of agricultural land'. However it can sometimes provide a starting point for the development of small specialist 'boutique' forms of agriculture such as alpacas, ostrich or emu farming, nut growing, olives, or berry farming, and can also provide opportunities for diversification of more traditional farming systems. Another important consideration for rural-residential forms of development is the necessity for on-site effluent disposal systems and rainwater tanks in the absence of reticulated sewerage and water schemes. These factors are influenced by the nature and location of the land, and their isolation from services typically found in urban areas.

Within an urban fringe setting, pressures on full-time commercial agriculture are particularly intense, and in the City of Swan the pressure relates mostly to increasing land values and associated fragmentation of land in response to perceived development opportunities, as the interface with Perth's urban areas moves ever outwards.

### 3.2.3 Rural Industry

Rural industry may incorporate a wide range of land use activities, ranging from intensive animal industries such as piggeries, poultry farms and intensive feedlots or it may include semi-industrial activities such as processing, handling and packaging rural products and transportation depots and workshops for servicing plant or equipment used for rural purposes. Transport depots have been identified as legitimate land uses in rural areas, depending on the scale and nature of operations. Such land uses may conflict with rural amenity objectives if they are too substantial. LPS17 and policy requirements must differentiate the types of rural industries deemed appropriate in rural areas; ensuring land uses reflect the prevailing precinct and zoning objectives.

### 3.2.4 Mining/Extractive Industry

The City of Swan's rural lands contain a number of basic raw material quarries and extraction sites, providing important materials (silica sand, clay, hard rock, gravel and limestone etc.) for the building and construction industry. Basic raw materials located within close proximity to Perth are highly desirable; as the City expands the availability and access to these materials declines, having an upward effect on building costs and housing affordability.

Several quarries exist and are classified as raw materials under the State Government's SPP 2.4, requiring the protection of remaining resources and the application of specific buffer requirements for adjoining land uses.

Extractive industry sites should provide an adequate separation distance to any rural living areas and other land uses that are deemed sensitive. Land use planning at the strategic level should consider the location of these resources and the compatibility of surrounding land uses, ensuring any proposed activities will not cause disturbance to the amenity of the area. Zoning, subdivision and development applications for extractive industries and land uses which may be affected by mining activities should observe the requirements of SPP 2.4.

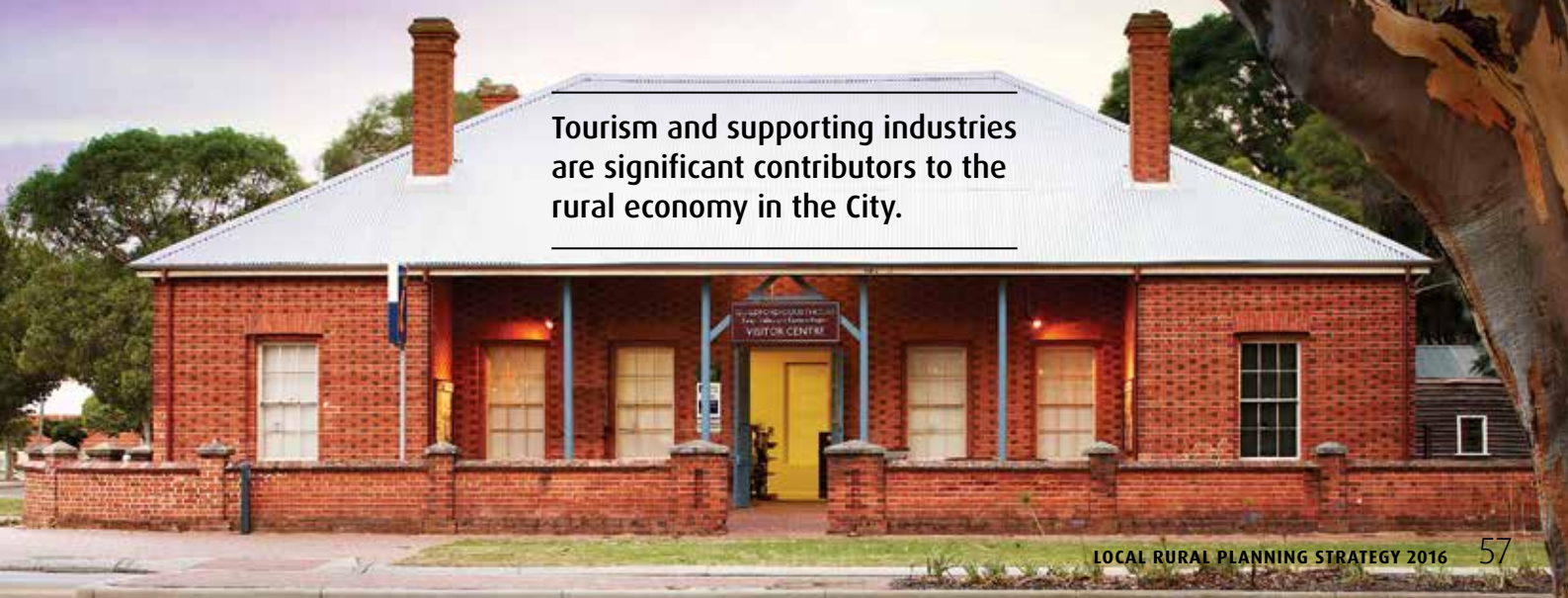
### 3.2.5 Tourism

Tourism and supporting industries are significant contributors to the rural economy in the City. Tourism may encompass a wide range of industries and can be difficult to measure in terms of land use, however there are both direct and indirect values associated with tourism and hospitality and key rural areas of the City which contribute to the industry. Major tourist attractions, including the Swan Valley and significant Aboriginal and European Heritage sites, are unique to the Perth metropolitan region and offer visitors an accessible rural experience. The wine and food industry in the Swan Valley is estimated to generate approximately \$200M per annum, with the viticulture industry being a dominant public, social and economic force within the City.

Tourism-based business in rural areas has grown significantly, and there is an evident relationship between the rural landscape being both an attractor of tourism and recreation-based industries. The City has significant nature-based tourism with National Parks, State Forests, nature reserves, walk trails and the Swan River. Wildflower drives, Noble Falls, the Paruna Sanctuary in Gidgegannup and the Walyunga National Park, near Bullsbrook, are notable rural tourist and recreation attractors, enjoyed by the wider Perth community and visitors alike.

Agri-tourism is a form of niche tourism that is considered a growth industry in Australia and can be a supplementary source of income for rural landowners. Agri-tourism and food tourism refers to activities such as visiting working farms or other farm- or food-related business (including restaurants, markets, produce outlets and natural attractions) for enjoyment, education, or active participation in activities and events. Rural areas that are successful in agri-tourism and food tourism tend to have common features—access to accommodation, appropriate infrastructure, and proximity or easy access to urban areas (ABARE, 2010). The City of Swan's rural areas are well equipped to facilitate these types of land uses, therefore long-term and sustainable coordination of agri-tourism and food tourism is needed to promote and develop this type of land use activity.

**Tourism and supporting industries are significant contributors to the rural economy in the City.**







## 4. Statistical Snapshot

Rural land use and industry is continuously evolving and changing over time, and it is useful in the context of the LRPS to establish an understanding of businesses by industry divisions. Providing a snapshot of business and industry statistics, once can ascertain the nature of employment opportunities, as well as the economic prevalence of certain industries, in rural areas. It also demonstrates the diverse and dynamic nature of land use in rural areas. Information on households and other demographic data provides some insight into the rural population, particularly in regards to workforce and employment migration patterns.

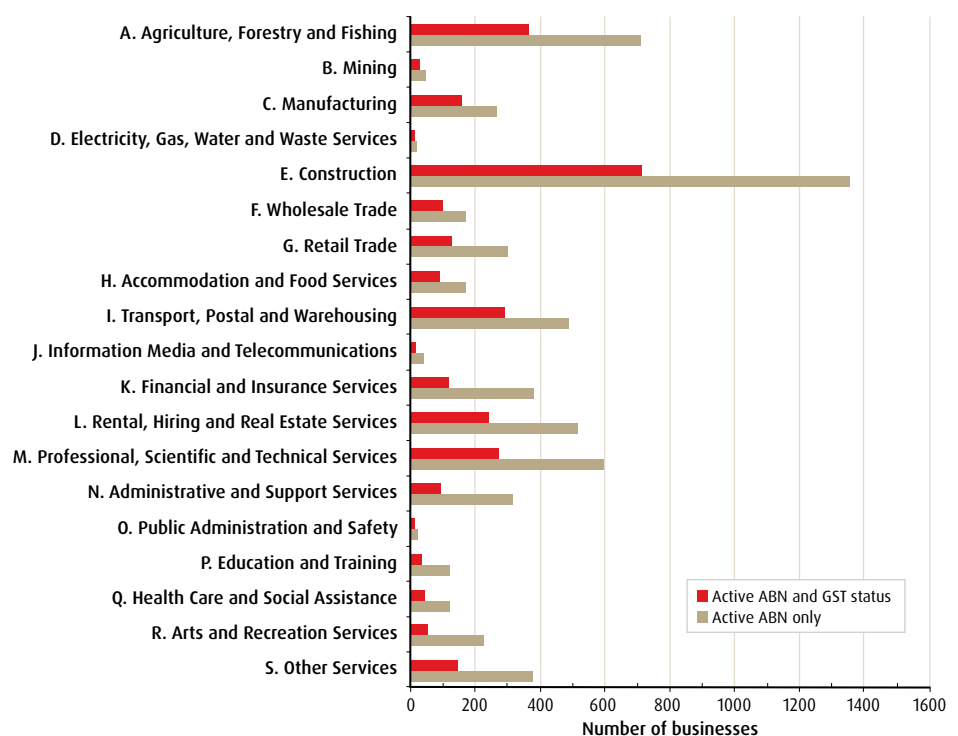


Figure 11. Rural Business Activity by Division

**Table 7. Industry Divisions within Rural Areas**

Top five industry divisions with businesses actively trading in rural areas of the City			
Industry Division and total number of actively trading businesses	ANZSIC Description	Number of businesses actively trading	% of total businesses in industry division
A. Agriculture, Forestry and Fishing (361)	Grape Growing	87	24.1%
	Beef Cattle Farming (Specialised)	38	10.5%
	Horse Farming	44	12.2%
C. Manufacturing (155)	Wine and Other Alcoholic Beverage Manufacturing	22	14.2%
E. Construction (710)	Site Preparation Services	70	9.9%
	Carpentry Services	66	9.3%
	Electrical Services	64	9.0%
I. Transport, Postal and Warehousing (287)	Road Freight Transport	208	72.5%
	Courier Pick-up and Delivery Services	22	7.7%
M. Professional, Scientific and Technical Services (270)	Engineering Design and Engineering Consulting Services	64	23.7%
	Accounting Services	40	14.8%
	Management Advice and Related Consulting Services n.e.c.	52	19.3%

### Rural Housing and Households

- There are 9,053 dwellings in total in rural parts of the City.
- Bullsbrook has the highest number of dwellings (1700), followed by The Vines (1270) and Middle Swan (1126).
- 2.7% of residents in rural areas require assistance with core activities (lower than metropolitan average).
- 71.5% of dwellings in rural suburbs have access to the internet. This rate is lower than the City of Swan with 77%.
- 12% of dwellings in 'rural' suburbs do not have an internet connection. This is lower than City of Swan and Perth, both at 16%.

### Employment

- 12,211 persons in the labour force: 6,517 males, 5,694 females.
- 61% work full-time, 29% work part-time.
- 66.2% of persons aged 15+ are in the labour force.
- 3.9% of persons in the labour force are unemployed.
- 27.8% of persons aged 15+ are not in the labour force, either retired, at school, unable to work or don't work at all.

- Almost one-third (31.6%) of employed persons work in Construction (11.3%), Manufacturing (10.3%) and Retail (10.0%).
- More than 20% of employed persons work in Healthcare and Social Assistance (8.0%), Public Admin and Safety (6.9%) and Education and Training (6.8%).
- Less than 3% of employed persons work in the Agriculture, Forestry and Fishing industries.
- Almost 35% of employed persons work as Technicians and Trade Workers (18.0%) or Clerical and Administrative Workers (16.2%).

### Place of Work

- 42% of employed persons who live in rural areas work in the City of Swan.
- The majority of workers in the rural areas of Swan also live in the area.
- 9.0% work in the Midland-Guildford SA2.
- 8.1% work in the Perth City SA2.
- 6.9% of rural residents work from home.

#### Source:

Unless stated, all statistics are from 2011 ABS *Census of Population and Housing*.

Estimated population figures: id. Population and Household forecasts 2009.

Employment figures: Department of Education, Employment & Workplace Relations, Small Area Labour Market Statistics, Sept qtr. 2008.

Industry sector by business counts: ABS Australian Business Counts Entries and Exists 2003-2007.

Building Approvals: City of Swan 2009.



## 4.1 City of Swan Rural Population

The Rural Population of the City of Swan has its own defining features, indicating that residents in rural areas have different needs and expectations to the urban population. Data on the City's rural population shows that there is a decline in ageing members within rural communities and younger adults appear to favour migration to urban areas where there are perhaps more diverse employment opportunities and access to services.

- 23,626 persons reside in 'rural' areas of Swan. This represents 21.8% of the City of Swan's total population.
- 0-14 year olds make up 21.3% of the rural population.
- 55 and over = 23.5% of the rural population.
- 70 and over = 6.1% of 'rural' population.
- 56.3% of the 'rural' population live in Bullsbrook, The Vines, Jane Brook and Middle Swan.
- Lower proportion of 75+ year olds than Swan and Greater Perth. This may indicate the elderly population are departing 'rural' areas to be closer to services (health and medical) and amenities.
- Lower proportion of 0-4, 20-24, 25-29, and 30-34 year olds than Swan and Greater Perth indicating less 'young families' are migrating to rural areas and/or that younger adults are leaving rural areas.

### 4.1.1 Bullsbrook

In 2011, the total population of Bullsbrook was estimated to be 5,156 people. It is expected to increase to approximately 9,800 by 2021, at an average annual growth rate of 6.7% (this rate of growth is proportionately higher than the City of Swan average rate of 4.52% per annum). Whilst it is expected that the average number of persons per household will fall by 2021, an additional 1,700 dwellings are expected in the Bullsbrook area, which is reflected in the State's strategic framework (Directions 2031) and the Master Plan.

The majority of population growth will occur in the urban townsite areas of Bullsbrook, given the availability of services and community infrastructure. The population of Bullsbrook can provide a localised workforce for major employment generators planned for the area, such as the Bullsbrook South Industrial Precinct, as well as the prevailing rural industries and primary production activities currently taking place.

### 4.1.2 Gidgegannup

Population forecasts for Gidgegannup also show signs of growth for the next 20 years, with the estimated 2011 population of 3,331 people increasing by over 1,200 people (to 4,605) by 2021 at an average growth rate of 3.29%. The average growth rate is expected to be lower than average, given the limitations on development serviceability and the low-density nature of residential development within rural living estates.

It is projected Gidgegannup and the surrounding area will grow by an additional 500 households by 2021, and the majority of growth is anticipated in the Gidgegannup township with approximately 1,070 additional dwellings in the area by 2036. There is availability under current Scheme conditions for an additional 165 dwellings in rural residential land; this assumed figure may vary slightly due to requirements relating to biodiversity protection and bushfire risk.

### 4.1.3 Swan Valley

The Swan Valley population figures as at 2011 were estimated to be 5,489 people, and this is not expected to increase by 2021. No major development or greenfield sites exist in the Swan Valley area, nor are any anticipated in the foreseeable future, resulting in a fairly low rate of growth (less than 10 dwellings per annum). The Swan Valley has one of the lowest growth rates in the City of Swan at a rate of 0.01%. Strategic land use planning should focus on preserving and maintaining productive primary industries and tourism and limiting the encroachment of urban development and inappropriate land uses on the Swan Valley, rather than accommodating an increasing population.

### 4.1.4 Upper Swan

Upper Swan population as at 2011 is 561 people, almost twice the number of people as there are households (244) indicating the relatively low population density in and around the townsite area. Less than half of the residents in Upper Swan are engaged in full-time or part-time employment (41%) and the majority of those working are employed in technical and trade professions and machinery operating and driving roles. Business information also shows there are a number of Upper Swan residents engaged in agriculture, with a significant number of registered businesses engaged in grape and other fruit production.

The Upper Swan population is expected to grow significantly in the next 10-15 years, as it is identified in the State growth strategy (Directions 2031) and the Draft Urban Expansion Plan which identifies a 93ha portion of the Upper Swan area as being set aside for urbanisation with an expected additional population of 1100 people. The area requires some coordination of land uses and infrastructure/services to support additional population growth. A number of constraints relating to waste water treatment, public transport, traffic management and the presence of basic raw material extraction activities prevailing need to be resolved prior to the expansion of the Upper Swan area as an urban centre.

# 5. Analysis of Key Issues

## 5.1 Land and Resource Management

Due to the complexity of land uses and the influence of land management requirements and resources on productivity, strict land use controls and narrow strategic objectives often cannot effectively resolve planning issues in rural areas. The planning system has traditionally been developed to deal with urban-type land uses through the development assessment process; however this approach cannot be applied the same way in rural lands.

In the past, Strategic Planning focused mostly on generic planning controls such as prescribing minimum lot sizes to dictate how land is utilised productively. Given the complexity of rural land uses, particularly on the rural/urban fringe, strategies need to be more dynamic to adapt to the needs of the local community, whilst also addressing wider economic and environmental considerations.

Agricultural and rural land uses are constantly evolving with the advancement of rural technology and land management practices, environmental and health considerations (such as buffer requirements for certain rural industries). Strategies must focus on achieving sustainability of agricultural productivity and rural land uses focusing on land management principles rather than tight land use controls, whilst acknowledging prevailing social, economic and environmental issues.



### 5.1.1 Surface Water

Rural areas of the City of Swan are located within the catchment of the Swan River Estuary which extends approximately 60km from Fremantle to the confluence of Ellen Brook with the Swan River. The City of Swan also includes surface water catchments of the lower parts of the Brockman River, Avon River and Wooroloo Brook catchments that occur within the Darling Plateau, as well as Ellen Brook and a number of smaller catchments mostly located on the Swan Coastal Plain.

There is little potential to utilise surface water catchments for irrigated agricultural activities due to salinity levels and environmental flow requirements. Topographic considerations then dictate that the potential for obtaining water by harvesting surface runoff in dams will be greatest within the valleys of the Darling, and to a lesser extent, the Dandaragan Plateau. In some valley situations it may also be possible for dams to harvest water from groundwater seepages although these can be of brackish quality. Catchment areas available to hillside dams and their likely yields are site specific; agricultural statistics and land use mapping suggests relatively modest areas are currently irrigated from surface water supplies.

### 5.1.2 Groundwater

The major groundwater resources within the City of Swan are associated with aquifers mainly beneath the Swan Coastal Plain within portions of the proclaimed Gngangara, Swan, Mirrabooka, and Perth Groundwater Areas (GWAs). The Gngangara Groundwater Areas Allocation Plan (DoW 2009) outlines the strategies and approach for managing these resources. It also shows that outside of public drinking water supply, 'horticulture and agriculture' is the largest existing water user category for the whole area of that plan, and the dominant (76%) user within the Swan GWA.

Away from the Swan Coastal Plain and Dandaragan Plateau, information on groundwater resources within the City of Swan's extensive rural lands on the Darling Plateau is generally limited. This area is referred to as the Karri Groundwater Management Area. Wilde and Low (1978) reported small amounts of potable groundwater (generally at yields of less than 15m<sup>3</sup> per day) are available from bores extending through the laterite profile to bedrock. Bores sited within valleys or on slopes may yield larger supplies but salinity is generally higher and ranges to 3,000mg/L TDS. In summary, groundwater from this portion of the City of Swan generally occurs in small localised supplies of variable quality.

### 5.1.3 Public Drinking Water

Informed land use planning and management is required to protect the quality of water in Priority Drinking Water Source Areas (PDWSA) and other groundwater supplies. Integrated land use and groundwater resource planning which recognises the primacy of water quality, particularly in PDWSA's, is a more effective and reliable measure to protect groundwater resources opposed to a reliance on treatment processes alone to deliver safe drinking water.

The Gngangara UWPCA (incorporating Gngangara and Mirrabooka Groundwater Areas) is the only PDWSA in the City of Swan. For land use planning and development purposes the Department of Water (DoW) define three

priority classification areas (P1, P2 and P3) based on the strategic importance of the land or water source, local planning scheme zoning, approved land uses or activities, and tenure.

Only small portions of the City of Swan's rural land are encompassed by the PDWSA. The *Water Quality Protection Note No 25 'Land use compatibility in Public Drinking Water Source Areas'* (Department of Environment 2004) outlines land use restrictions in Priority (P1-P3) Areas. Affected groundwater subareas are as follows:

- P1: Plantation groundwater subarea within southern part of Gngangara Place Planning Area—irrigated horticulture including vines, orchard and market gardens are incompatible (not permitted);
- P2: Most of Henley Brook groundwater subarea within southern part of Ellenbrook Place Planning Area, and part of Improvement Plan 8 groundwater subarea within northern part of Ballajura Place Planning Area—irrigated horticulture is compatible, but subject to strict conditions (not recommended); and
- P3: Portions of various groundwater subareas within minor parts of Gngangara, Bullsbrook, Ellenbrook, Swan Valley, Urban Growth Corridor, and Ballajura Local Area Plans (LAPs)—vines and orchards are acceptable, but market gardens are compatible, but subject to strict conditions (not recommended).

#### 5.1.4 Water Resources and Availability

Availability of water for irrigation is a defining factor in considering whether there are areas of local or regional agricultural significance. On the coastal plain portion of the City of Swan, groundwater resources within the Swan Valley currently support an iconic part of Western Australia's viticulture industry. Any additional groundwater allocations are likely however to go to established projects rather than to support new ones (WAPC 2003a). This indicates that the portions of the land identified as most capable for irrigated agricultural uses but not currently used for such, may have difficulty in being brought into agricultural production unless enabled through transferable water rights and/or water use efficiency gains.

Within the Darling Plateau, Swan Hills (Swan Hills and eastern part of Bullsbrook LAPs) sources of water for irrigation are predominantly limited to the harvesting surface runoff in dams, although in some locations it may be possible to supplement this with groundwater. As a result, and as shown by the limited extent of existing irrigated horticulture away from the coastal plain, suitable homogeneous topography, available catchment areas, and the need to avoid remnant vegetation, watercourses and rock outcrop, all act to reduce the apparently large areas of most capable land so that ultimately, suitable locations occur as only small pockets in the landscape.

The factors above provide support for defining the existing core area of the Swan Valley and some western portions of Bullsbrook (West Bullsbrook LPA) as an area of agricultural significance on the basis of water resources having been secured for viticulture and horticulture, and the associated irrigation infrastructure established. Elsewhere, ongoing water resource availability particularly with a drying climate does not provide support for defining areas of agricultural significance.

Groundwater areas are divided into subareas for the purpose of groundwater management and allocation, and Table 4 summarises recent resource allocation reports.

At present, there are only minimal amounts of groundwater available to support any further expansion of irrigated agriculture (horticulture and viticulture). Subareas containing rural land in the City of Swan with allocations that are less than 100% committed (including requests being considered) are:

- Bandy Spring, and North Swan—within the Swan GWA;
- Beechboro, Improvement Plan 8, and Plantation—within the Mirrabooka GWA; and
- Shire of Swan South—within the Perth GWA.

Of the above, only the Bandy Spring and North Swan subareas contain significant amounts of rural land that are not constrained by close proximity urban areas or by land use controls associated with protecting the Gngangara UWPCA.

Even within the Bandy Spring and North Swan subareas the actual amounts of 'currently available' water (3,297 kl and 8,955 kl respectively) would support less than 3 hectares of 'new' horticultural development based on a nominal allocation of 10,000 kl per ha. Furthermore, any additional allocations are considered likely to go to established projects rather than to support new ones (WAPC 2003a).

The major area of existing water use for irrigation occurs within the Swan Valley where the issue of ensuring sufficient water is made available to secure the future of agricultural production, including allowing for an expansion in the area planted, has been identified as a key factor limiting agricultural production and investment in the Valley (various references cited within the *Swan Valley Land Use and Management Discussion Paper*—WAPC 2012a). In relation to the availability of a sustainable water supply for agriculture the following points are made within that paper:

- Expansion can be facilitated by the provisions within the *Gngangara Groundwater Areas Allocation Plan* (DoW 2009) that allow for water trading on a permanent or temporary basis between water licensees. A further option to allow for future growth and expansion is for licensees to implement best practice water efficiency measures. Water saved through this process is not subject to recouping.
- There is no mechanism for water carryover by licensed water users. Therefore, growers tend to hold water in reserve in case of a dry autumn. If it is wet, there is often the need for a carryover of unused water allocation. A carryover facility, as occurs in South Australia, would thus enable growers to average water use over wet and dry years (Urban Aesthetics, 2011).
- There remains a lack of confidence in the security of future water supply, especially for agribusiness and agri-tourism, which potentially compromises the future of viticulture/horticulture in the Swan Valley (Urban Aesthetics, 2011).
- This in turn can significantly reduce further private investment, including exploring more innovative and water efficient practices, which are critical to enable the viticulture/horticulture industry to evolve (Urban Aesthetics, 2011).
- Other water sources, such as options to use recycled water, would also be an alternative to allow for future expansion. The higher cost of recycled water above that paid historically for groundwater pumping costs will not be attractive to growers while less expensive groundwater is readily available (Urban Aesthetics, 2011).



### 5.1.5 Dams

Topographic considerations dictate that the potential for obtaining water by harvesting surface runoff in dams will be greatest within the valleys of the Darling, and to a lesser extent, Dandaragan Plateau. In some valley situations it may also be possible for dams to harvest water from groundwater seepages although these can be of brackish quality. Catchment areas available to hillside dams and their likely yields are site specific; however agricultural statistics and land use distribution suggest relatively modest areas are currently irrigated from surface water supplies.

### 5.1.6 Land Degradation and Susceptibility

The main forms of land degradation relevant to rural areas of the City of Swan are nutrient (phosphorus or 'P' export), salinity, waterlogging, and soil loss through water or wind erosion. The nature and areas of susceptibility to these forms of land degradation are discussed here, and Appendix B outlines land management strategies to address these issues. Further information relating to land management is available through the Perth Natural Resource Management Sustainable Agriculture Practices Information Hub (<http://sustainableagricultureperth.targeton.com>).

#### Phosphorus Export

In addition to inputs from septic tank systems and urban runoff, loss of nutrients applied as fertiliser to the land and their subsequent accumulation within natural water bodies is a significant environmental problem due to the effects on riverine, estuarine or wetland ecology. Deterioration of ecological health is most commonly shown by the appearance of algal blooms which reduce scenic amenity and produce unpleasant odours upon decay.

Inputs of both phosphorus and nitrogen contribute to the problem, although soil landscape-based interpretations of risk associated with nutrient loss focus on phosphorus (P) as there is a good relationship between soil type and the ability of P to be retained rather than lost to drainage. Analysis of the Department of Agriculture and Food WA soil landscape data indicates that the areas within the City of Swan that are most susceptible to phosphorous export. From a broad perspective, the coastal plain portion of the City of Swan within the Ellen Brook catchment is most susceptible to nutrient loss from fertiliser applications and livestock excrement. This is because the catchment's predominantly sandy soils have a poor ability to retain or fix nutrients and they are located in an area with a seasonally high water table.

Water soluble nutrients are washed into Ellen Brook from the catchment's farming lands through drains and natural creek systems. In addition to this surface runoff, shallow groundwater forms a significant component of the base flow. The major areas at risk of nutrient loss are low-lying areas of the Swan Coastal Plain closest to Ellen Brook.

In other catchments, particularly those within the Darling Plateau away from the coastal plain, phosphorus contributions are significantly lower and in the form of nutrients fixed to soil particles and removed by soil erosion. Subject to the control of soil erosion and subsequent deposition of soil into watercourses, the risk of nutrient losses to drainage within these catchment areas is likely to be low and a lesser environmental problem compared to the areas with generally sandier soils in the Ellen Brook catchment.

Control of drainage is therefore of key importance within the coastal plain catchments, particularly Ellen Brook, while

control of soil loss (erosion) is the key to minimising nutrient export from catchments within the Darling Plateau. P Export risk mapping is shown at Figure 12.

#### Salinity

Dryland salinity has developed in Western Australia largely due to over-clearing of deep rooted native vegetation and its replacement with farming systems based in the use of shallow rooting annual crops and pastures. Water tables have subsequently risen bringing with them salts stored in the deeper subsoil. When rising saline water tables reach the surface, agricultural productivity, existing native vegetation, and the environmental health of rivers and wetlands can be affected. Analysis of the DoAF soil landscape data indicates that the areas within the City of Swan most susceptible to salinity are primarily associated with the Yanga soil landscape system in the northern portion of the Bullsbrook LAP.

#### Waterlogging

Waterlogging is a significant factor in reducing crop yields in agricultural areas, reducing the capacity of plant roots to supply nutrients and making them more susceptible to diseases. Climatic and landform factors affect waterlogging; however internal drainage is generally the main factor controlling susceptibility to waterlogging. Duplex (sand or loam over clay) soils and uniform clay soils are most susceptible, particularly within valley floors and on the coastal plain.

Cultivation of waterlogged soils can damage soil structure resulting in management problems associated with hard-setting, slaking and dispersion. Furthermore, where waterlogging is associated with rising water tables, rather than just temporary perching of water on subsoil clay layers, it is often associated with salinity and hence susceptible areas as shown in Figure 14 are similar to those for salinity.

#### Soil Loss—Water Erosion

Water erosion is a process in which soil is detached and transported from the land by the action of rainfall runoff and seepage. Erosion of soil not only affects agricultural productivity but also catchment water quality through increased stream turbidity and addition of nutrients attached to soil particulate matter. Minimising soil erosion is therefore a key strategy for reducing both nutrient and organic loads in watercourses.

Analysis of the DoAF soil landscape data indicates that the areas within the City of Swan most susceptible to water erosion are as shown in Figure 15. The incidence of soil erosion is greatly dependent on slope and land management practices. Steeper slopes, such as those immediately below lateritic breakaways within the Darling and Dandaragan Plateau are particularly susceptible; however any areas which receive and concentrate surface runoff are at risk. As a result, the margins of drains and natural watercourses are therefore also often the focus of revegetation and erosion prevention measures.

#### Soil Loss—Wind Erosion

Loss of soil through wind action can cause sandblasting damage to susceptible crops, loss of nutrients, and the long-term loss of productivity. The risk of wind erosion relates to the ease with which soil particles are detached and transported from the land surface by the action of wind and all soils are subject to wind erosion given certain conditions.



Generally speaking however, sandy soils with a loose surface are most susceptible (Moore 1998).

Analysis of the DoAF soil landscape data indicates that the areas within the City of Swan most susceptible to wind erosion are as shown in Figure 16.

### Other Forms of Land Degradation

Other forms of land degradation likely to affect much smaller portions of the rural areas within the City of Swan include flooding, soil acidity, soil structure decline, and water repellence. Although the DoAF soil landscape mapping can be used to identify areas at risk of flooding, more definitive analysis and mapping are available at the Department of Water.

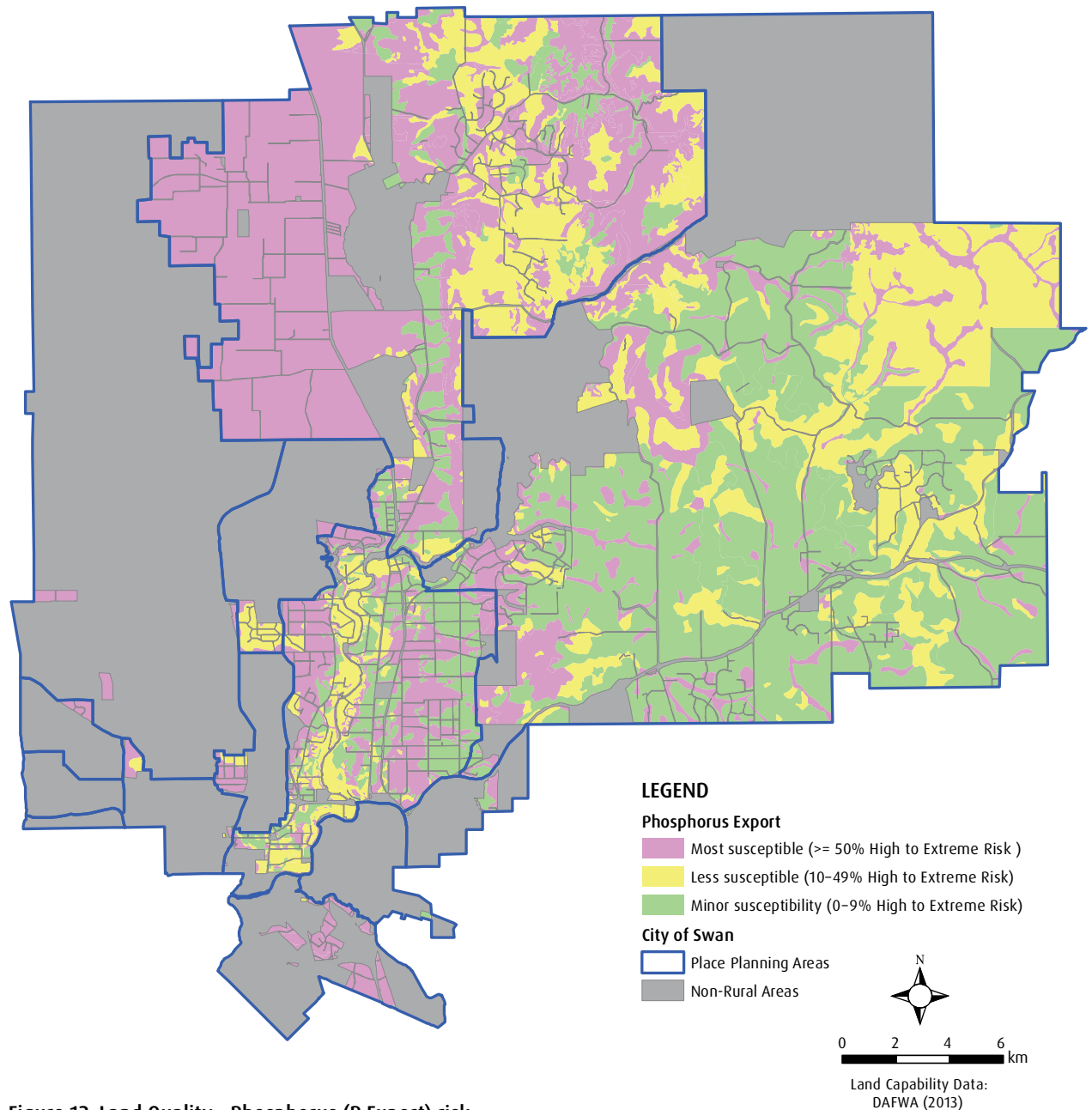


Figure 12. Land Quality—Phosphorus (P Export) risk

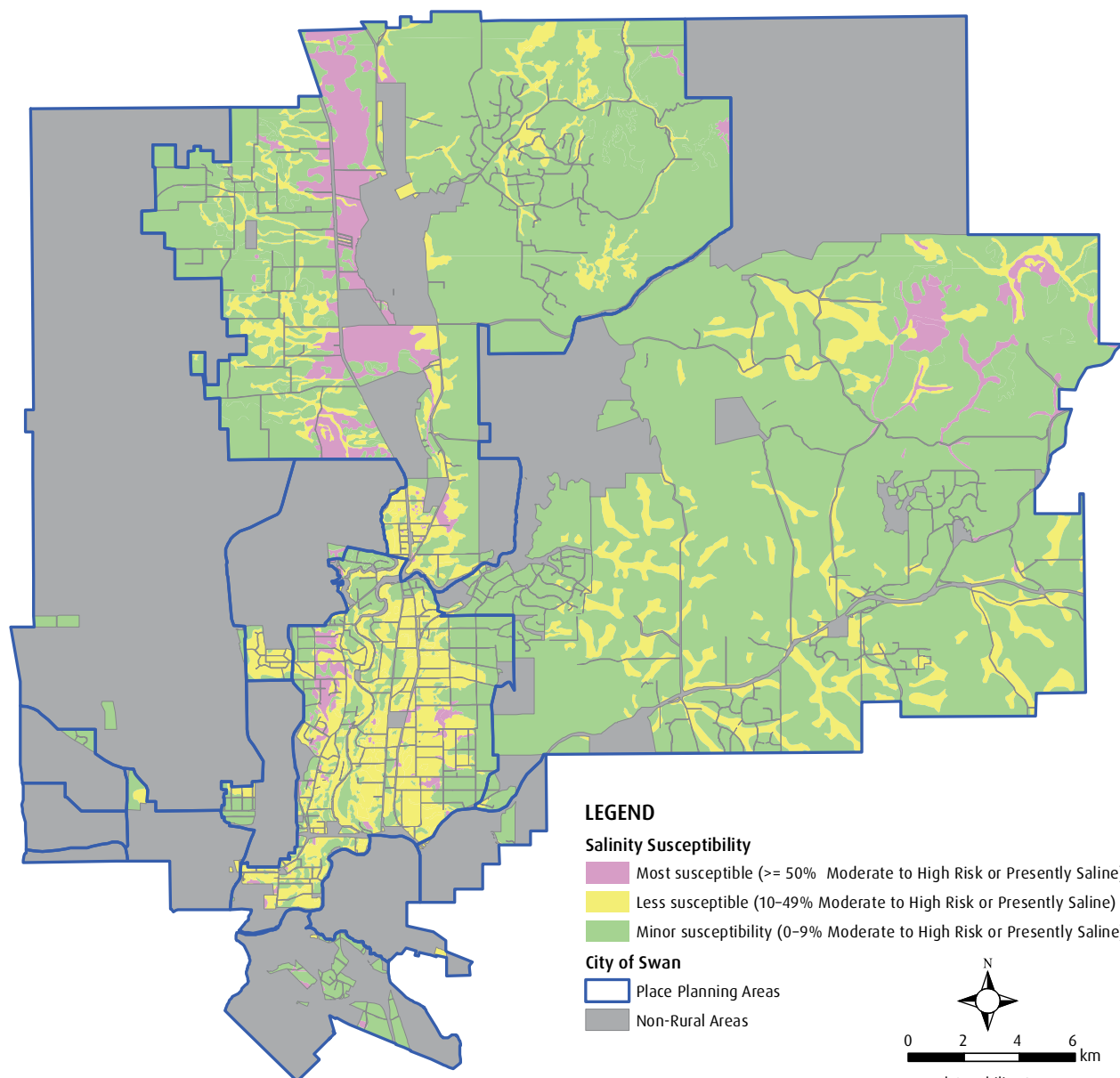


Figure 13. Land Quality—Salinity Risk

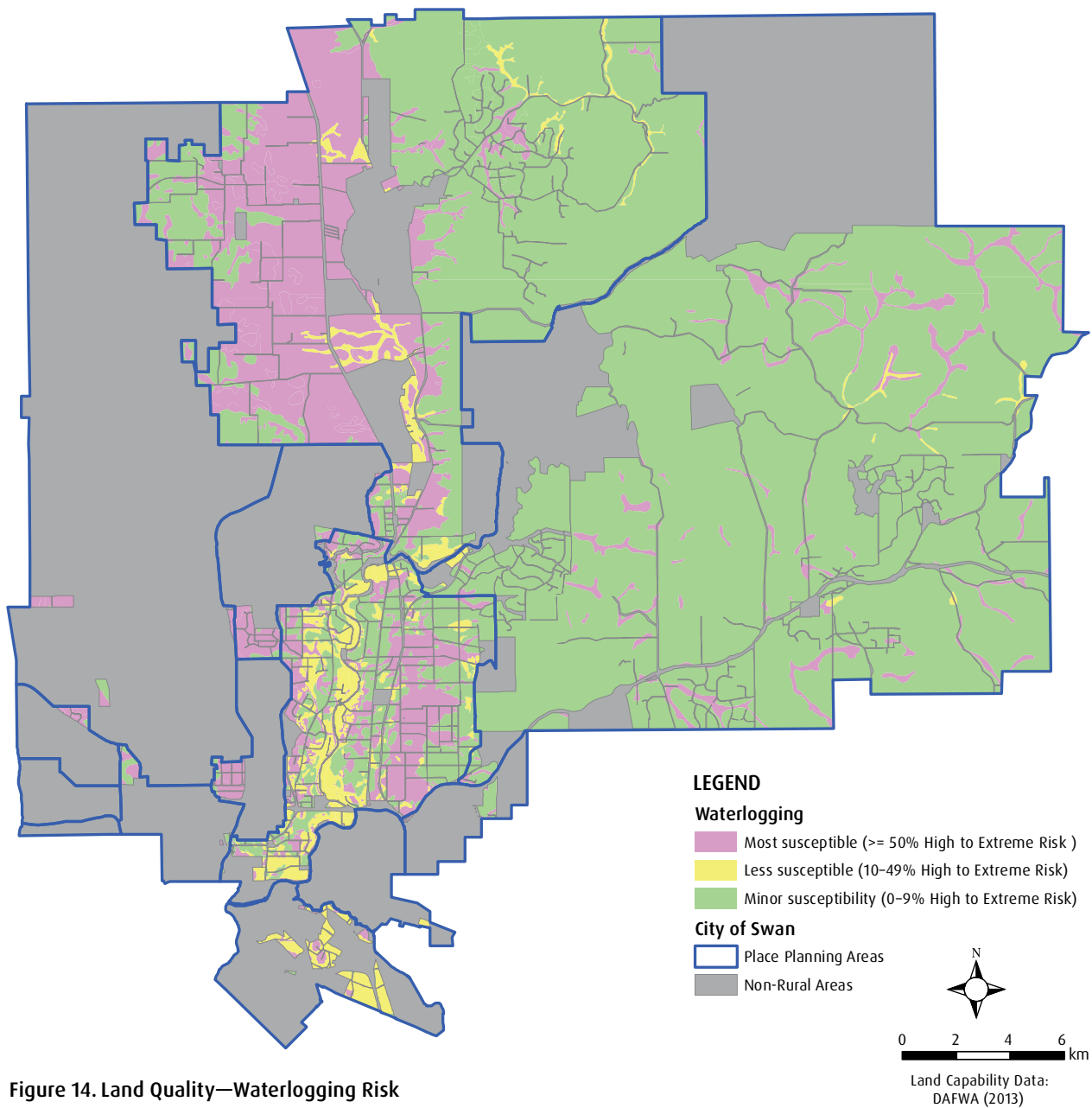


Figure 14. Land Quality—Waterlogging Risk

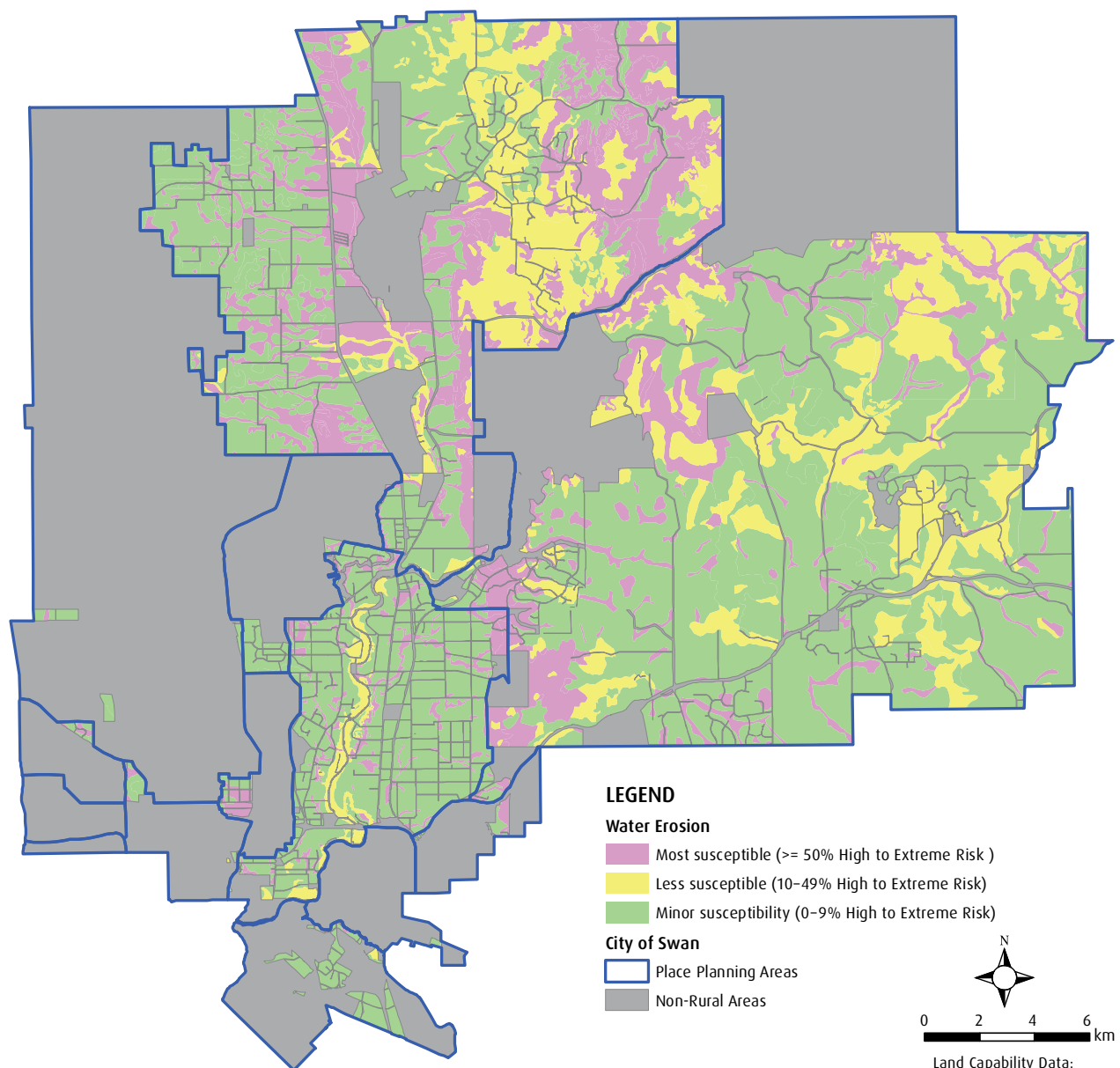
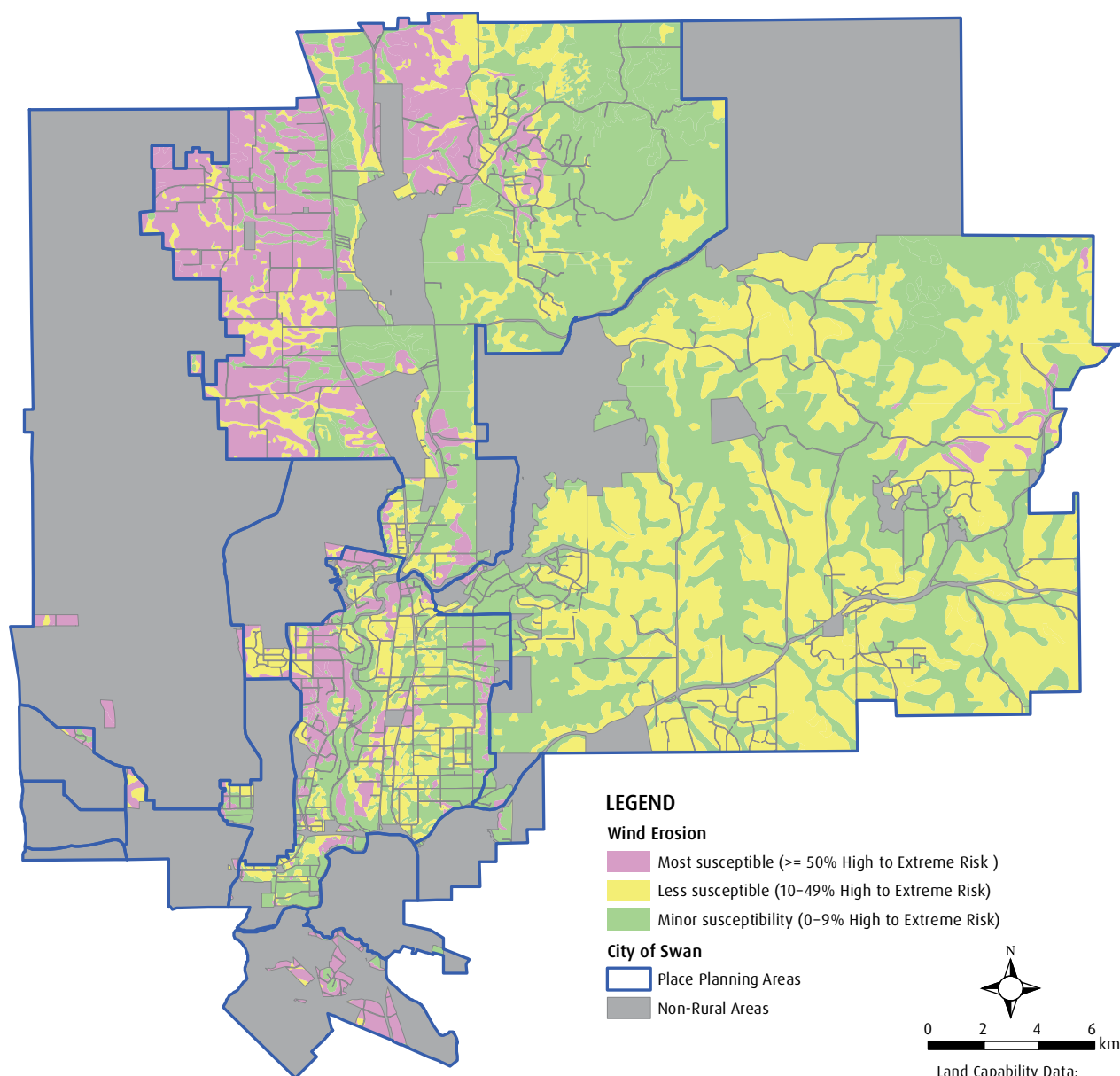


Figure 15. Land Quality—Water Erosion Risk





**Figure 16. Land Quality—Wind Erosion Risk**

Soil acidification can inhibit growth of plant roots and render soils more susceptible to degradation from erosion. Although currently not a significant land degradation issue within the City of Swan most agricultural land has some risk of surface soil acidification.

Soil acidification is a natural process which is generally accelerated by agricultural activities, including the use of ammonium-based fertilisers. However its treatment, through liming, is straightforward. Soil acidity should not be confused with Acid Sulfate Soils (ASS) which are naturally occurring soils and sediments containing sulphide minerals, predominantly pyrite (an iron sulphide). In an undisturbed state below the water table, these soils are benign and non-acidic. However, if ASS are exposed to the atmosphere following excavation or drainage, the sulphides may react with oxygen to form sulphuric acid.

This can result in the release of heavy metals which can adversely affect water quality and associated ecosystems. Areas with potential for ASS are identified in mapping

available through Landgate, although significant areas of the coastal plain portion of City of Swan are shown as having a moderate to low risk of ASS occurring within 3 metres of natural soil surface, the mapping is not included in this report.

This is because ASS are benign unless exposed as a result of deep excavation or drainage works—neither of which are likely to occur during agricultural or rural—residential forms of development.

Soil structure decline from excessive tillage can adversely affect seedling emergence, root growth, infiltration, water storage, aeration and soil workability, all of which can reduce crop yields. Water repellence can also reduce crop yields and is caused by organic matter or ‘waxy’ coatings of hydrophobic material on soil particles which affect the wetting pattern of sandy soils in particular. Although areas are susceptible, soil structure decline and water repellence are currently not significant land degradation issues within the City of Swan.

### 5.1.7 Basic Raw Material availability and access

The availability of basic raw material resources within close proximity to Perth is declining with the outward expansion of the Perth Metropolitan Area. Many sites that would otherwise be useable often occur in locations where planning and environmental impacts preclude or severely constrain extraction (WAPC 2000a). Having an available supply of basic raw materials close to established and developing parts of the metropolitan region is critical in keeping costs of land development low which contributes to housing affordability (WAPC 2000a).

Within the City's rural areas, there are a number of existing and potential basic raw material resources, including sand, clay, gravel and hard rock. The effective management of basic raw material resources of regional and local significance is outlined in SPP 2.4. This policy establishes the requirements when considering zoning, subdivision and development applications for properties in the vicinity of identified basic raw material resource areas (WAPC 2000a).

Within the rural parts of the City, there are Priority Resource Areas identified under SPP 2.4, as well as numerous extraction sites. Identified basic raw material extraction areas with relevant buffers are outlined in Figure 2. Properties located within the boundaries of an identified Priority Resource Area and Extraction Area are required to demonstrate that any change in land use will be compatible with the continued operation of resource extraction. This may require measures such as monitoring noise, dust and vibration levels that result from the operations within resource areas.

### 5.1.8 Integrated Catchment Management

The purpose of ICM is to integrate the management of land, water and related biological resources to achieve the sustainable and balanced use of those resources. It has been adopted at State government level as a way of achieving a cooperative approach to looking after natural resources. The principles of ICM are similar to those of 'sustainable development', achieving a balance between economic development and conservation of land and water resources and recognising that management of land and water resources should be coordinated, and that resources are basic and interactive components of natural ecosystems. Elements such as landforms, soils, water, vegetation and other natural resources in a specified catchment are symbiotic, and reliant on each other. Management of an individual element requires an understanding on how that may affect other elements.

The management of land and water resources should also be based on geographic units which account for the interaction between land and water resources, which are continuously changing in response to natural processes. The City of Swan's rural areas contain a number of water catchments, including: Swan River; Blackadder/Woodbridge; Helena River; Wooroloo Brook; Millendon and Ellenbrook Catchments. Catchments may be defined by other geographies; such as specific wetland systems or a regional park. The Swan River Trust is principally responsible for ICM within the Swan River and other government departments are actively involved in natural resource management for other elements, for example Department of Agriculture provide technical advice to land conservation district committees, formed under the *Soil and Land Conservation Act 1982*, working with landowners to solve problems relating to land degradation.

Planning at the local level in rural areas should recognise the significance of catchments and ICM, revealing catchment impacts of development and land use and how it may affect certain catchments. The City of Swan has a duty to ensure the community and stakeholders of a catchment are informed and involved in decision-making. The City of Swan is responsible for local planning and development control, providing recreation facilities, and managing/maintaining reserves which are vested under the City's control. During the preparation of the local planning Scheme and policy, ICM should be addressed to ensure effective management of land, vegetation and waterways occurs within the City of Swan's rural land.



## 5.2 Protection of Agricultural land

### 5.2.1 Agricultural land capability

In 2013 the City carried out an assessment into the capability of rural land uses, including agricultural land. Land capability is a term used to express the ability of land to support a proposed form of land use with minimal risk of degradation to its soil or water resources. Soil landscape mapping from DoAF's Map Unit Database (Schoknecht et al. 2004) provides the framework and data for assessments of land use capability.

Land capability is related to, but separate from, the concept of land suitability. Land capability assessment is a form of environmental impact assessment based on a consideration of the physical characteristics of the land (landform and soil conditions) and the requirements of a proposed form of land use. Land suitability is a broader form of land use evaluation based on a consideration of planning and socioeconomic factors, as well as land capability.

**Five broad land use activities have been assessed by the Department of Agriculture and Food for rural areas within the City of Swan as follows:**

- a) **Perennial Horticulture**—irrigated orchards, olives or tree crops, which are generally deep rooting species.
- b) **Annual Horticulture**—irrigated, generally shallow rooting annual vegetable crops, but also encompassing commercial turf production and cut flowers.
- c) **Viticulture**—irrigated production of grapes for wine or table grapes.
- d) **Grazing**—non-irrigated pasture used for sheep, cattle or other livestock.
- e) **Cropping**—dryland (rain-fed) crops, including hay, grown under a system that incorporates minimal tillage practices.

Land capability relating to agriculture also provides assessment for viticulture as well as residential (rural residential development using on-site effluent systems) land uses. The assessment of land capability utilises information on sub-units in each land system and evaluates these against a range of land qualities to enable a capability rating. Land qualities are considered on topography, soil type, drainage, climate, flood and erosion hazards, water supply and other factors which may affect sustainable primary production activities. These site-specific land qualities, along with other planning matters also need to be considered to determine whether or not a specific area is suitable for a proposed form of agricultural land use and/or subdivision.

### 5.2.2 Land Capability Assessment

The capability assessment method is described in Department of Agriculture and Food publications (van Gool et al. 2005). It involves obtaining soils and landform data from soil landscape surveys and mapping, and comparing these against the requirements for specific types of land use, expressed in terms of (limiting factor) rating tables. Land use requirements include consideration of agricultural productivity factors such as plant rooting depth and soil water storage, in addition to environmental protection needs such as minimising nutrient loss and erosion.

The results of land capability assessment are most commonly expressed in DoAF land resource survey publications in terms of a five class system as shown in Table 8. Capability classes reflect the severity of physical limitations to a proposed form of land use. They range from Class 1 ('very high' capability—no significant limitations) through to Class 5 ('very low' capability—severe limitations). The magnitude of land use limitations will ultimately be reflected in development costs or environmental management requirements for the land.



**Table 8. Capability Class System**

Capability Class	General Description
<b>1 Very High</b>	Very few physical limitations present and easily overcome. Risk of land degradation is negligible.
<b>2 High</b>	Minor physical limitations affecting either productive land use and/or risk of degradation. Limitations overcome by careful planning.
<b>3 Fair</b>	Moderate physical limitations significantly affecting productive land use and/or risk of degradation. Careful planning and conservation measures required.
<b>4 Low</b>	High degree of physical limitation not easily overcome by standard development techniques and/or resulting in high risk of degradation. Extensive conservation measures required.
<b>5 Very Low</b>	Severe limitations. Use is usually prohibitive in terms of Development costs or the associated risk of degradation.

**Capability mapping based on soil type and geomorphic landform is presented for each of the broad land use activities described in Part 5.2.1 at Figures 17–21.**

### Perennial Horticulture

Perennial horticulture involves the growing of orchard-based produce. The majority of capable land for this produce exists in the base of the Darling Scarp east of the Swan Valley and along the Darling Ranges in pockets of weathered lateritic soils. Perennial horticulture is usually dependent on water availability therefore more opportunities exist closer to the Swan Valley, where allocations for farming irrigation are still available.

### Annual Horticulture

Annual Horticulture involves the growing, irrigating and fertilising of crops of annual fruit, vegetables, turf and other botanical products (including flowers). Areas in the City of Swan with higher capability class for annual horticulture include:

- Eastern Swan Valley (Herne Hill) and the western edge of the Darling Scarp.
- Western Darling range soil landscape zone (around Gidgegannup).

Most of the capable land for annual horticulture is restricted by limited water supply, and large areas of land in the Swan Coastal Plain are susceptible to waterlogging, limiting opportunities for annual horticulture. The most constrained of the more highly capable areas are those near the east side of the Swan Valley. The proximity to the urban front and the Swan River limits this area's suitability to support annual horticulture due to nutrient enrichment of that waterway and incompatibility of intensive urban and rural activities where adequate buffers need to be maintained to avoid spray drift of herbicides and pesticides.

### Viticulture

Viticulture is a form of perennial horticulture; the prominence of viticulture in the City's rural areas and the unique land qualities affecting viticultural capacity requires an independent assessment of land capability. The majority of Good 'A1' class land for viticulture is located in the Swan

Valley, due to having ideal soil capability class with the added availability to groundwater allocations for irrigation. Availability of water for irrigation is a defining factor for viticulture and although there is a large portion of Good 'A2' Class soil (well drained loamy sands) on the Darling Scarp for vines, the lack of groundwater availability is a limiting factor.

### Grazing

The capability mapping indicates grazing activity has reasonable potential in the City's rural areas. Several areas contain soil landscape units with 50% of high or very high land capability class, which may support grazing activity. The scarp areas of Bullsbrook (east of Great Northern Highway) and the farmland areas surrounding Gidgegannup are identified as containing 19.2% and 33.3% of high or very high land capable of supporting grazing activity, reflecting the current grazing land uses (sheep and cattle) prevailing in those areas. Areas that have generally low to very low capability for grazing activities are east and north of Bullsbrook and mostly along the Swan Coastal Plain, where waterlogging and phosphorus export is more susceptible.

### Cropping

Another form of dryland farming, cropping is a particularly extensive form of agriculture which often requires larger landholdings to make them viable. In the City of Swan, cropping is the least capable form of primary production that could be sustained, taking into account the soil profile and other land qualities. Land capability mapping suggests the quality and quantity of land available for cropping is limited to the eastern Swan Valley (at the base of the Scarp) and in the deep valley loams of the Darling Scarp. Land systems that are seemingly capable of supporting cropping in the City of Swan can also support more intensive forms of agriculture, namely horticulture. The fragmented nature of rural landholdings in the City is such that the limited land available would unlikely be utilised for dryland cropping.



### 5.2.3 Versatile Agricultural Land

Where land is capable of supporting a wide range of primary production activities, and has both irrigated agriculture and dryland farming capabilities, it is considered to be highly versatile. Such highly versatile land should be protected from land use impacts and the fragmentation of allotments so it is capable of supporting agriculture. In terms of versatility, this is depicted in Figure 24 as areas where there is better quality land for horticulture and viticulture (Figure 22) overlaid with better quality land for dryland farming (Figure 23). This does not take into account water availability and any biodiversity which might be present on a site, and is required to be demonstrated for any proposed subdivision or amalgamation of rural lots.

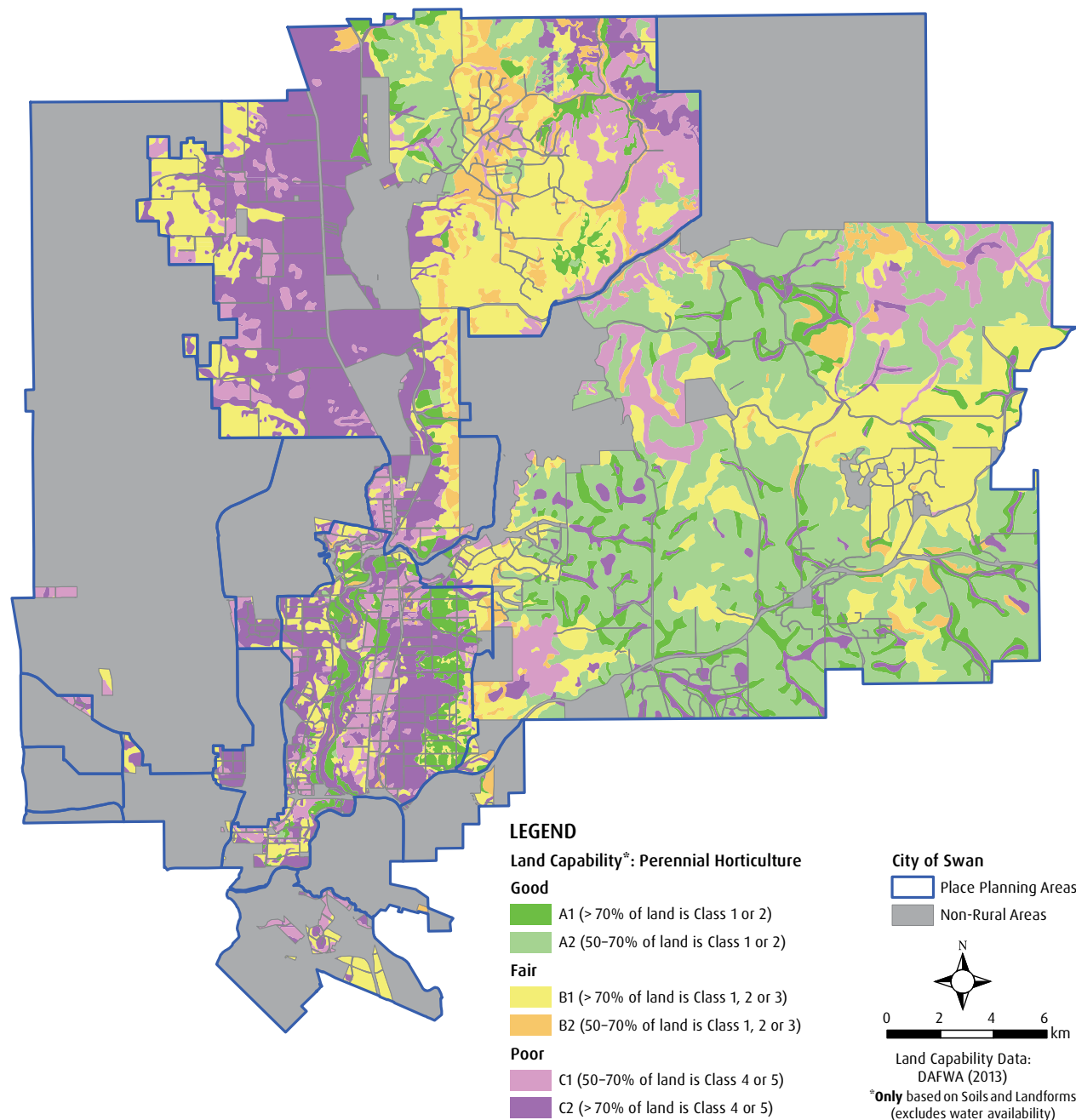


Figure 17. Land Capability—Perennial Horticulture

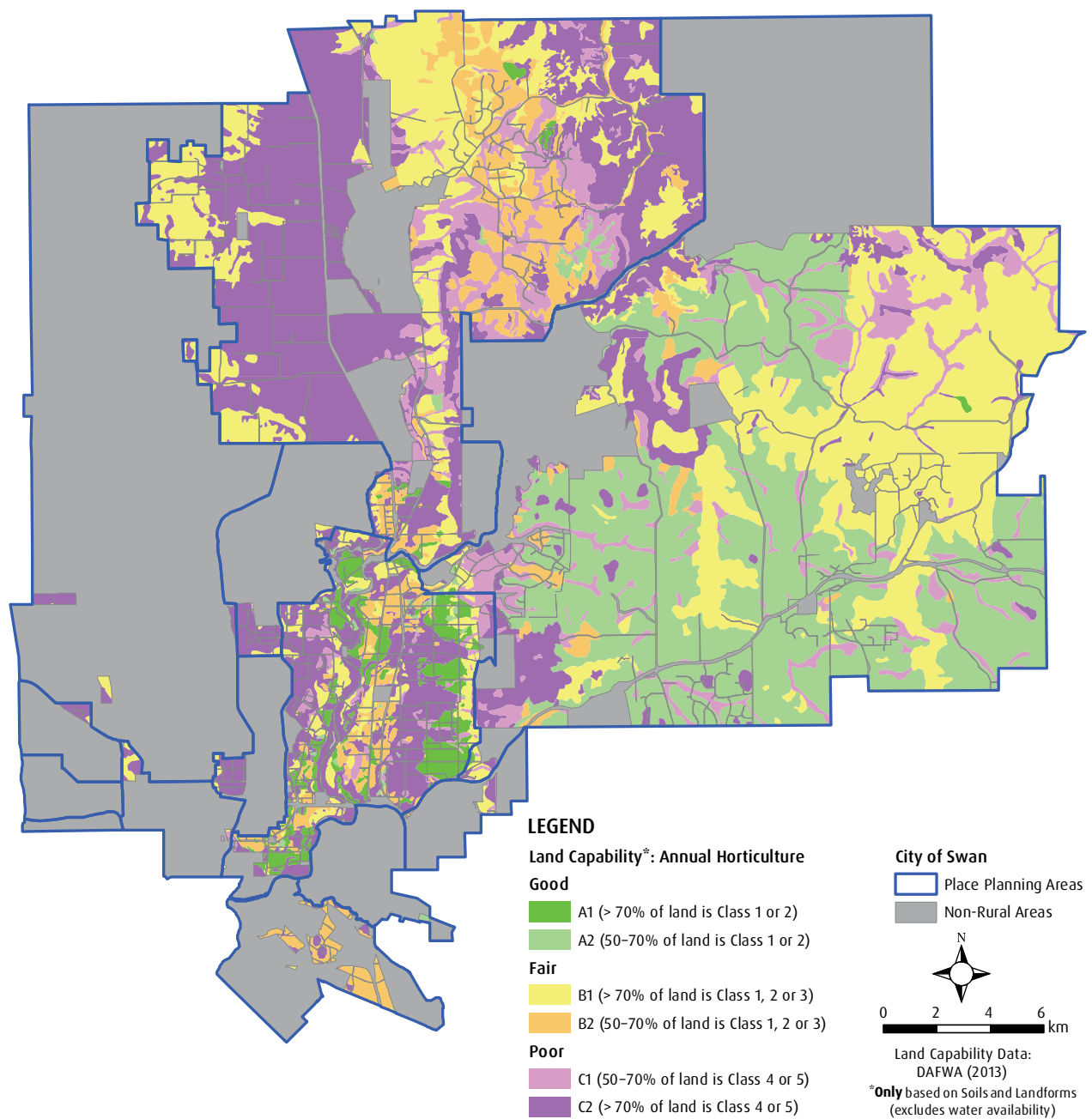


Figure 18. Land Capability—Annual Horticulture



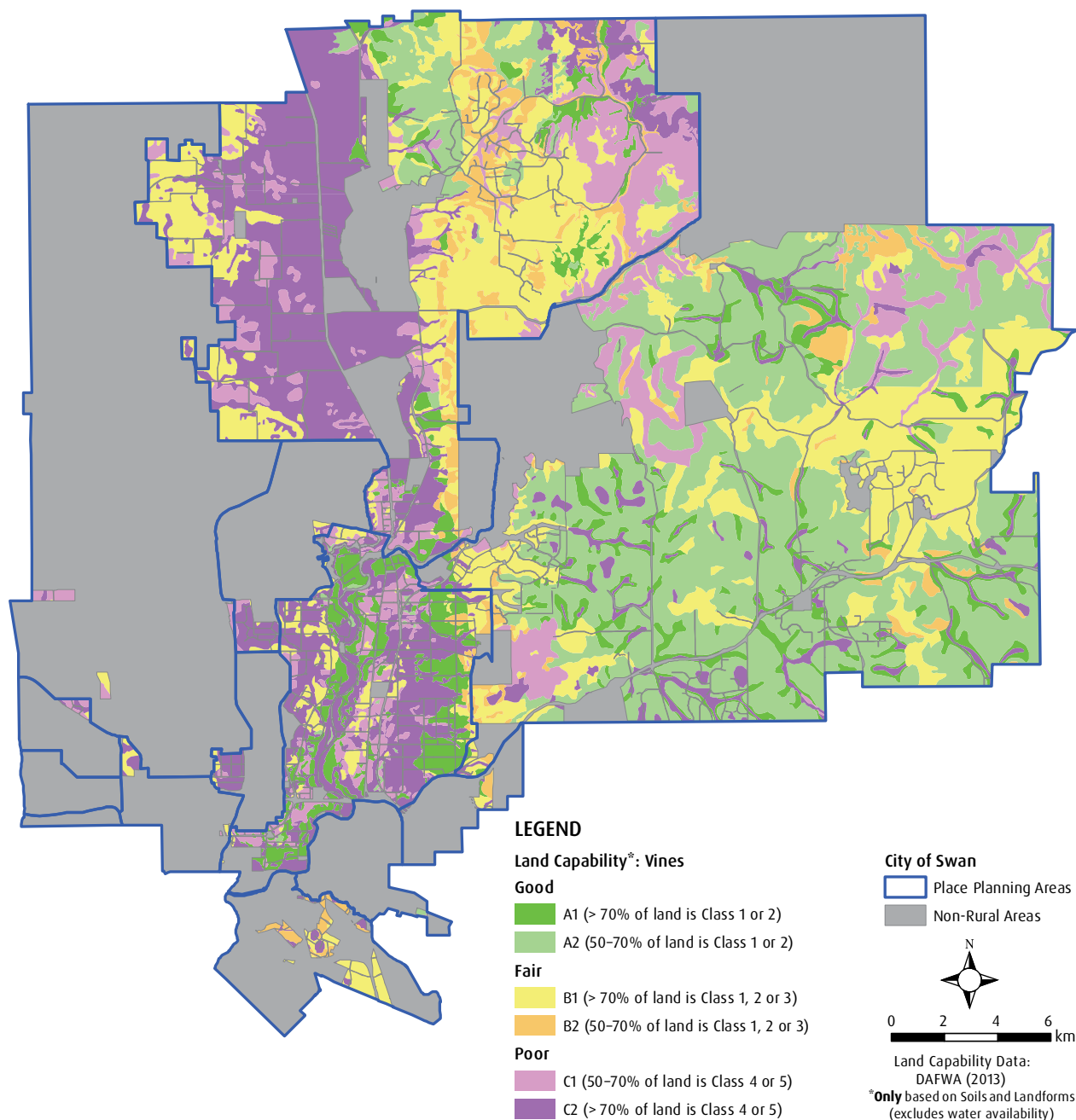


Figure 19. Land Capability—Viticulture

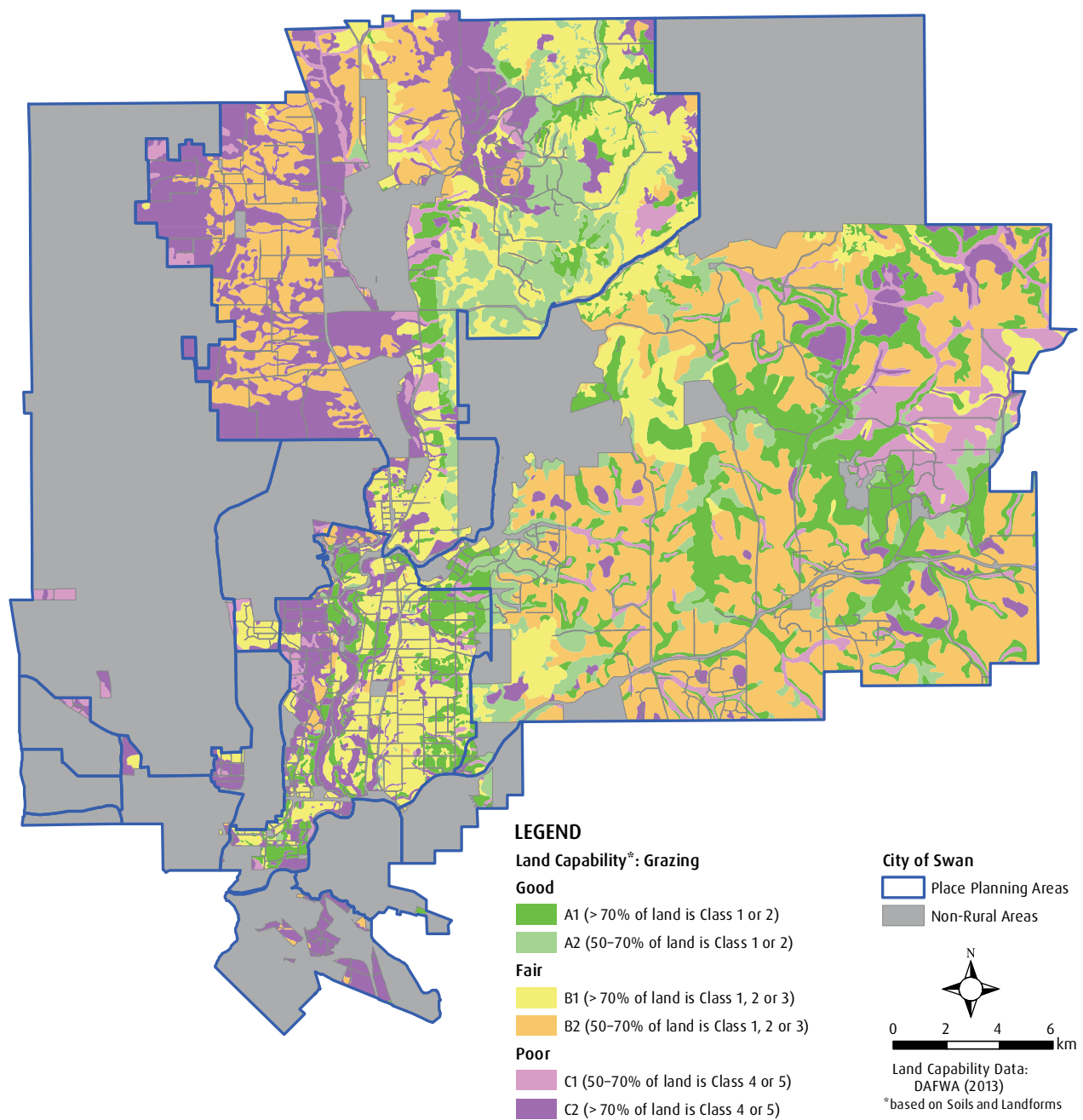


Figure 20. Land Capability—Grazing

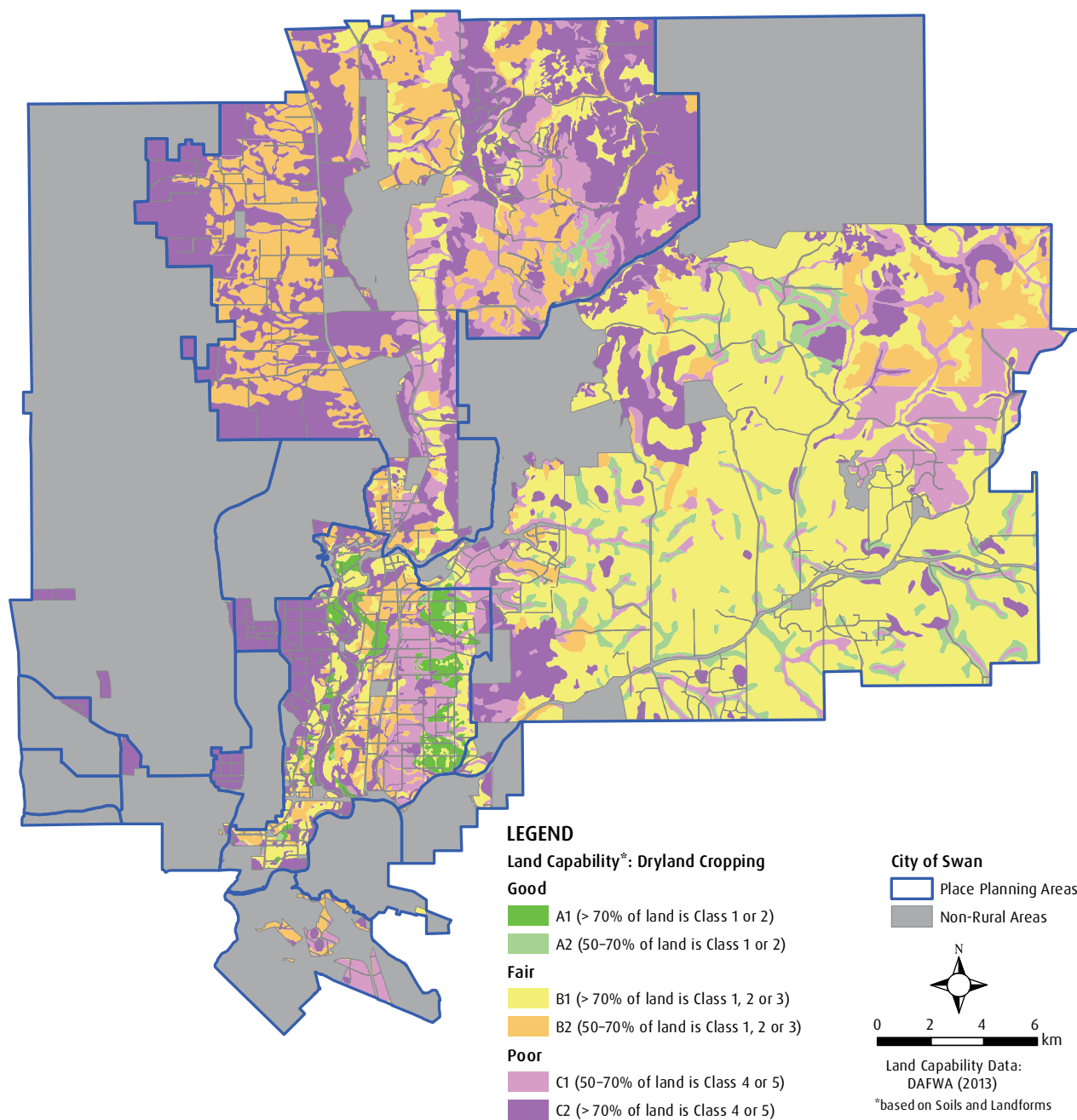


Figure 21. Land Capability—Cropping



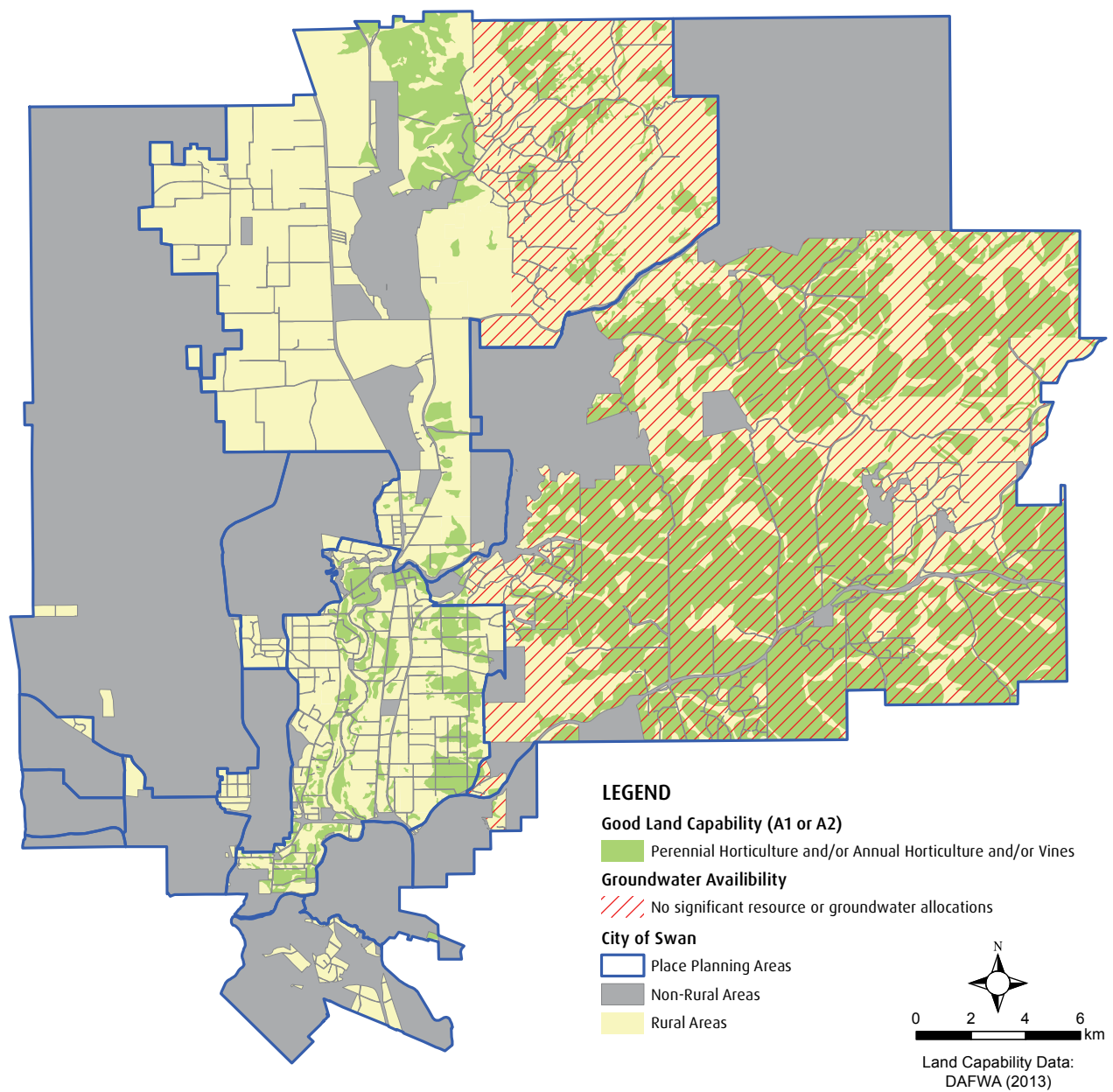


Figure 22. Better Quality Land for Horticulture and Viticulture

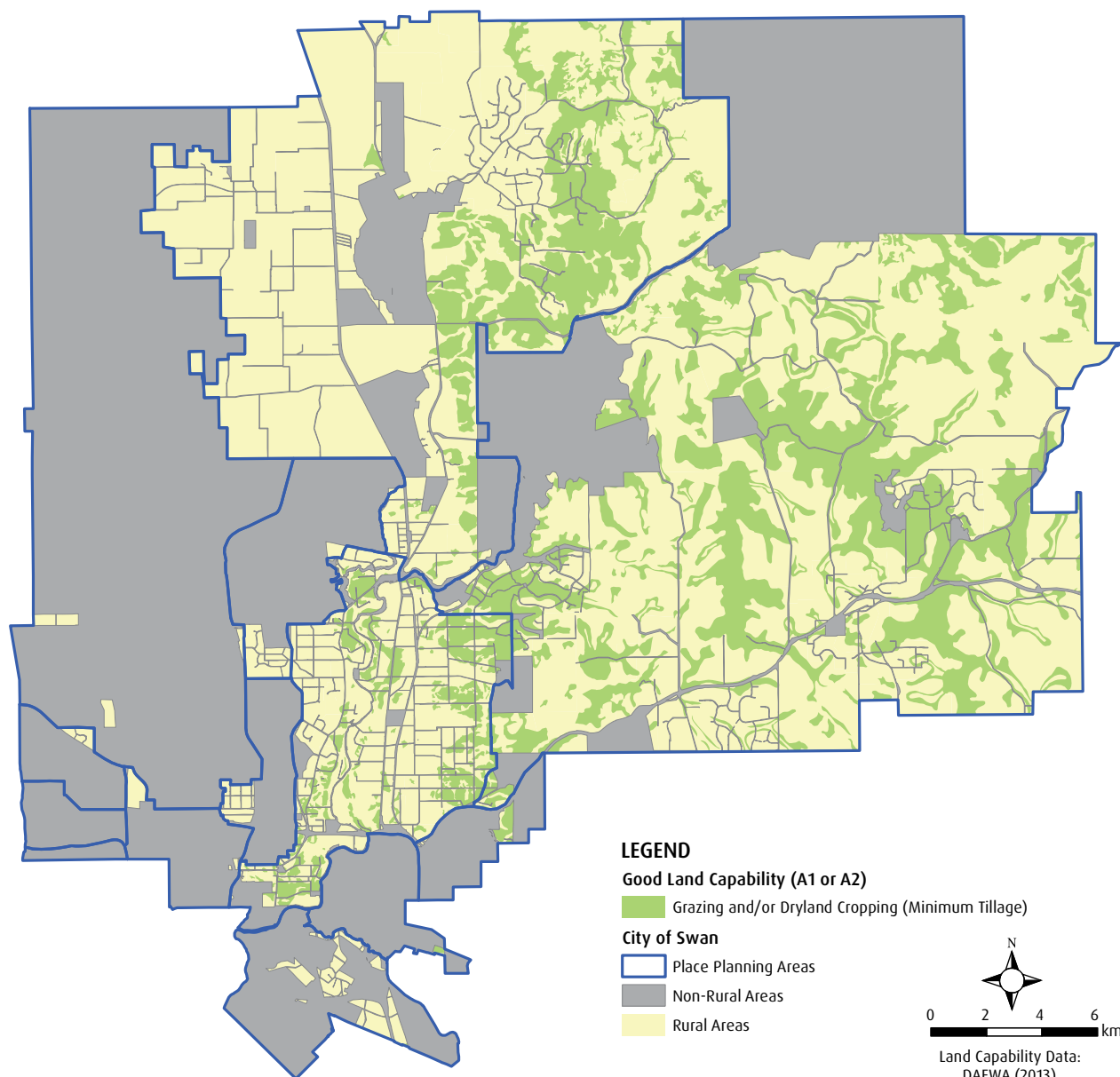
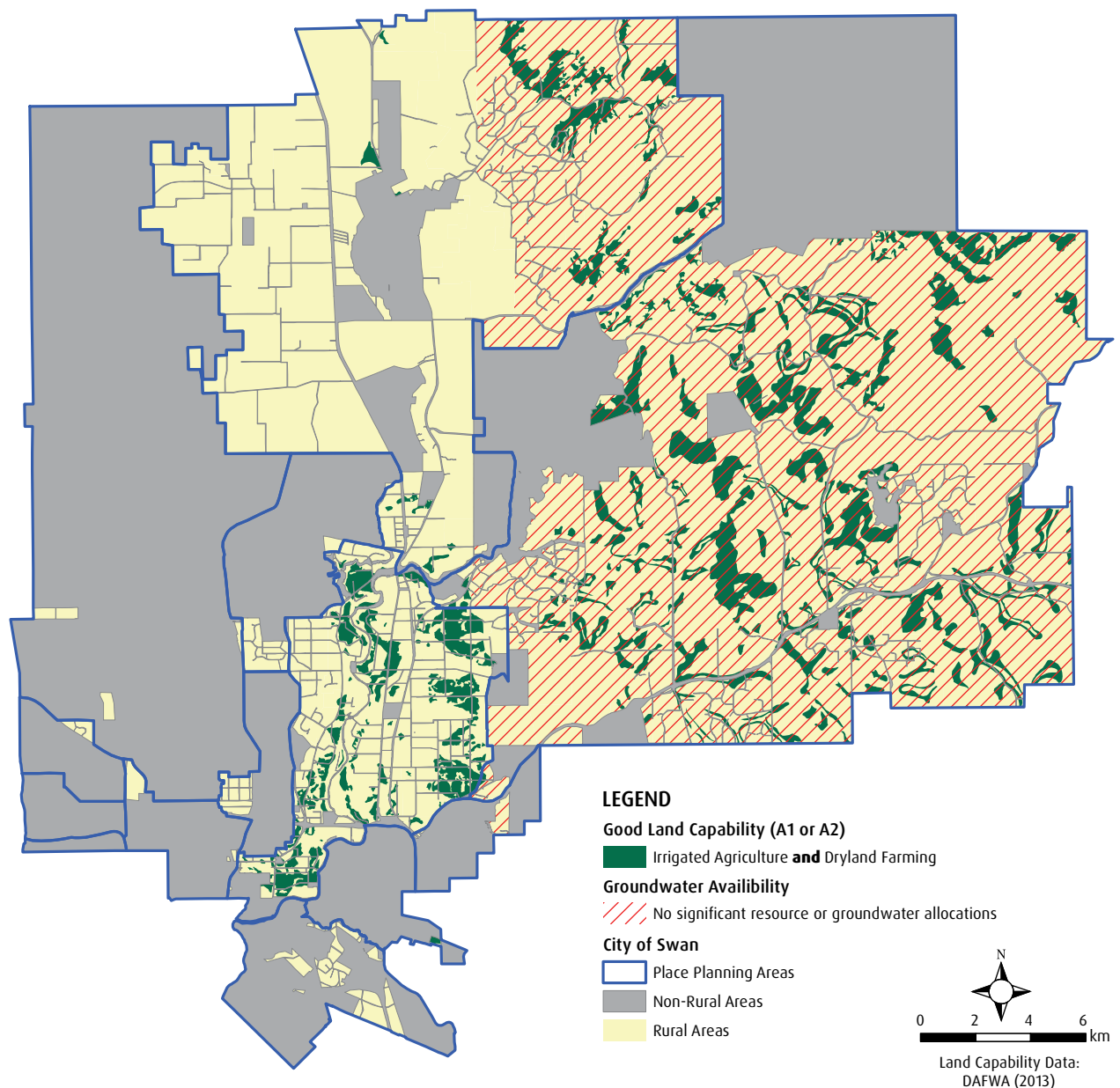


Figure 23. Better Quality Land for Dryland Farming



**Figure 24. Versatile Agricultural Land**

### 5.2.4 Rural Subdivision

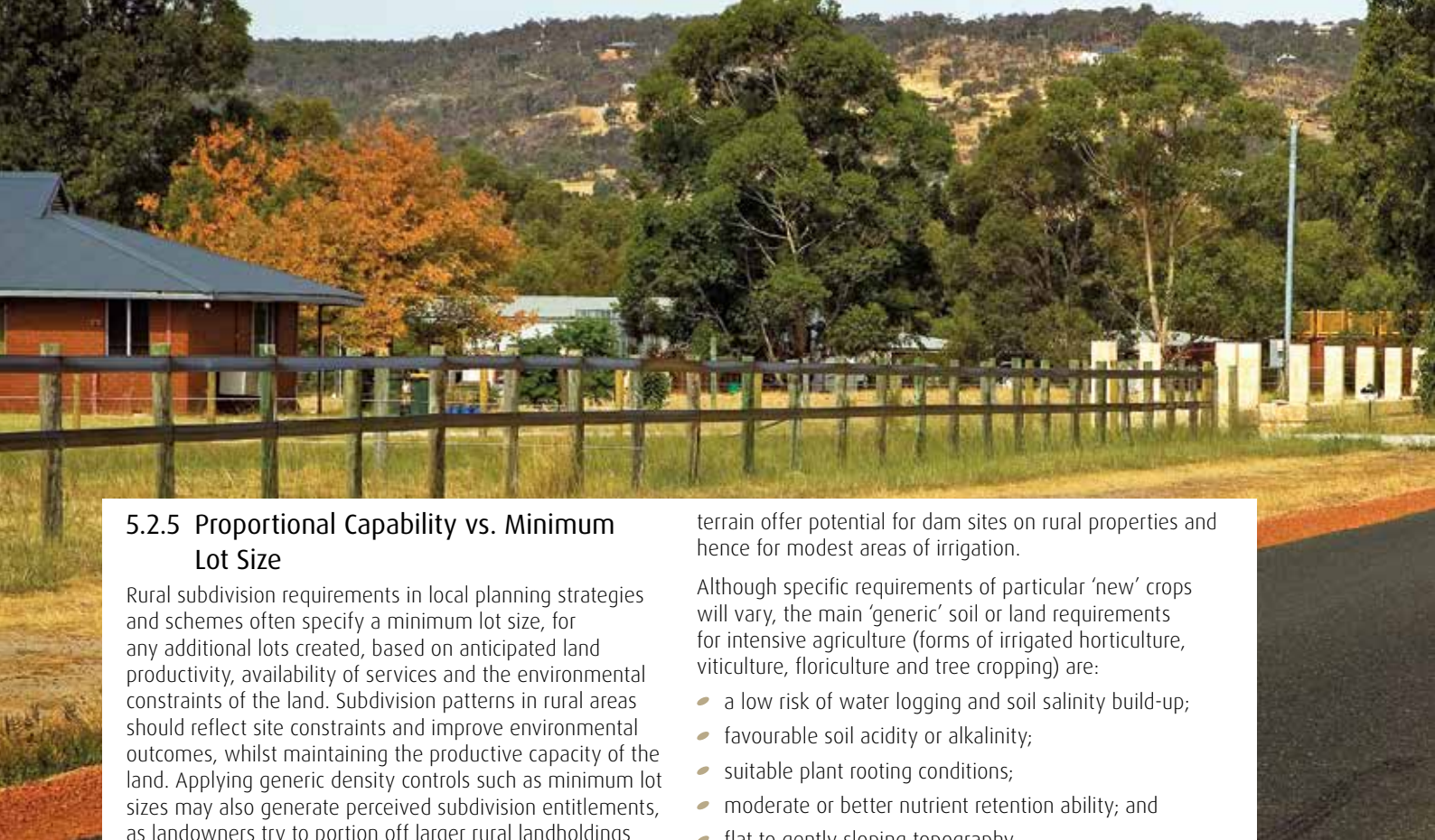
There is a general presumption against the ad hoc fragmentation of rural land, in order to protect rural land that has potential productivity and provides the most flexibility for agriculture. It is the view of WAPC and the City of Swan that there is an existing supply of suitably sized and located rural lots to cater for intensive and emerging primary production uses, particularly given restrictions and availability of water to support them.

Creation of new rural lots through ad hoc subdivision is considered inconsistent with the objectives of *State Planning Policy No. 2.5*. Even where the use of rural land for intensive or emerging agricultural land use practices exists, the creation of new or smaller rural lots may still not be justified.

It is also acknowledged that loss of agricultural land does not equate to loss of agricultural industry as land productivity is irrelevant to intensive farming practices such as poultry farms, mushroom farms and animal husbandry (and other

forms of rural industries). Land identified in this strategy as local priority agriculture should be retained for this purpose, and as such restrictions on subdivision will apply in these areas. Subdivision for agricultural purposes should only be supported where there is a demonstrable positive influence on primary productivity, to impede future urbanisation of peri-urban land through controlled fragmentation of lots for identified rural living purposes, or by the exceptional circumstances outlined in D.C policy 3.4 'Rural Subdivision'.

Proposed lot sizes should be established by the land capability and the ability for land parcels to support existing and future primary production based on Department of Agriculture and Food soil mapping and factoring the availability of water to support particular primary production activities, in addition to other environmental and social considerations. Other lot sizes for Rural Living and areas without agricultural significance are consistent with the lot ranges prescribed under SPP 2.5 (2012).



### 5.2.5 Proportional Capability vs. Minimum Lot Size

Rural subdivision requirements in local planning strategies and schemes often specify a minimum lot size, for any additional lots created, based on anticipated land productivity, availability of services and the environmental constraints of the land. Subdivision patterns in rural areas should reflect site constraints and improve environmental outcomes, whilst maintaining the productive capacity of the land. Applying generic density controls such as minimum lot sizes may also generate perceived subdivision entitlements, as landowners try to portion off larger rural landholdings which may become difficult or cumbersome to manage, without regard to impacts on productive capacity of the land.

As such, a proportional assessment of land capability should support an application for subdivision in rural areas, particularly where a structure plan isn't required (General Rural Zone). Sufficient justification is required for the creation of new rural allotments; all new lots must demonstrate that there is an adequate proportion of arable productive land (even after considering other on-site constraints such as vegetation, watercourses and steep topography etc.).

Subdivision requirements contained in this strategy are determined by the capacity to maintain primary production activities based on a site specific land capability analysis, rather than the City applying minimum standards.

### 5.2.6 Agricultural Diversification

Diversification of farming systems can provide a buffer against market fluctuations in mainstream farming products. Caution should be exercised however in the pursuit of 'new' agricultural enterprises which sometimes promise high returns but are not backed by suitability assessment for the subject land and its climatic conditions, as well as market research.

Although somewhat dated, a survey of rural and rural-residential landowners within the Swan-Chittering area (Johns 1997) provides some data on existing and proposed forms of agricultural diversification. It indicated that the major areas of new agricultural activity at that time were aquaculture, tree farming (agroforestry), alpaca farming and worm farming, with farm-stay (tourist accommodation) a popular choice for future diversification. Prospects for diversification and intensification of agriculture are commonly linked with the potential to obtain water supplies for irrigation. On the Swan Coastal Plain the potential for additional water supplies to support new enterprises is limited by the high level of existing groundwater allocations. Within the Darling Plateau however, areas of dissected

terrain offer potential for dam sites on rural properties and hence for modest areas of irrigation.

Although specific requirements of particular 'new' crops will vary, the main 'generic' soil or land requirements for intensive agriculture (forms of irrigated horticulture, viticulture, floriculture and tree cropping) are:

- a low risk of water logging and soil salinity build-up;
- favourable soil acidity or alkalinity;
- suitable plant rooting conditions;
- moderate or better nutrient retention ability; and
- flat to gently sloping topography.

These requirements are considered as part of land capability assessment for perennial forms of horticulture, which has been undertaken by the City. The farming of alpacas, ostriches or emus on small rural holdings, are examples of semi-intensive livestock enterprises. Although generally compatible with other farming activities on land capable of supporting grazing activities, they require a range of skills in animal husbandry and stock management. Stocking rate guidelines, animal husbandry and other practical land management advice for owners of small rural landholdings is available from the Department of Agriculture and Food. However, in common with many emerging or 'new' agricultural industries, initial limitations for semi intensive livestock enterprises are not generally related to production or land management, but rather to marketing issues and the adequacy of seed capital (McKinna 1998).

### 5.2.7 Collaborative/Collective Farming

Collaborative (or collective) farming is a system of agricultural production in which the holdings of several farmers are run as a joint enterprise, engaging jointly in farming activities. Traditionally, the structural approach to farming in rural Australia is that farms are run by one landowner on a scale that individuals can manage effectively. There are inefficiencies with operating separate farms, particularly where resources and infrastructure can otherwise be shared (such as transport, packaging and handling facilities) and partnerships with neighbours can occur. Whilst local level planning processes cannot dictate tenure arrangement between multiple landowners interested in a collaborative arrangement to their land uses, consideration can be given on merit to proposals which may not otherwise be permitted in certain rural zones, provided there is sufficient justification. Such uses may be considered as an 'Additional Use' or as consent for a 'Use Not Listed' application under the LPS, provided the land use and scale of development aligns with the intent of any prevailing zoning.



## 5.3 Environmental Protection

The physical environment determines the capacity of certain areas to support development and land uses in rural areas. Protection of the environment and natural systems is critical to the health and wellbeing of residents and visitors to the City, as well as supporting specific industries such as agriculture which can often rely on natural features and environmental processes. Protection of the environment and its features can present prohibitive or limiting constraints to land use and development however such barriers can be overcome through effective conservation, protection, retention and management of natural features comprising the local ecosystem.

### 5.3.1 Biodiversity

Biodiversity is a term that describes the variety of nature and embraces the various living parts of the world around us. The three levels of biodiversity—species, genetics and community—are interrelated and interdependent. A population of a species is dependent on the genetic variation within it and upon its habitat (ecosystem) for survival, and an ecosystem is dependent on the full variety of the species that comprise it (Williams et al. 2001). Achieving the right balance between rural land use and development, whilst maintaining biodiversity values areas is critical in the strategic planning of the City's rural areas. Balancing the community and local government's objectives for biodiversity requires a strategic approach which identifies the extent of biodiversity resources and develops a vision, objectives and management targets for retention of biodiversity features deemed to be significant.

Maintaining biodiversity values becomes more difficult with the ad hoc fragmentation of rural land, in particular rural living estates and rural residential subdivisions which results in net loss of vegetation from clearing required to maintain bushfire mitigation measures such as firebreaks and building protection zones. An area that might otherwise contain good quality remnant vegetation could lose a significant proportion of vegetation through cleared areas, in addition

to being exposed to other introduced biodiversity threats from development and land use such as introduced weed species, dieback and other land management processes that can impose significant costs on landowners (e.g. fencing off riparian vegetation or other vegetation corridors to prevent damage from roaming livestock).

The City's Local Biodiversity Strategy (LBS) provides the processes for assessing the ecological significance of remnant vegetation and for determining its protection status by assessing constraints and opportunities for protection. The LBS objectives are to establish policy and process to ensure biodiversity values are recognised in decision-making by Council, especially in relation to land use planning and development; identify high priority natural areas and make recommendations for their protection; assess lands managed by or vested in the City of Swan to prioritise management needs; and establish incentives for private land conservation.

Strategies and actions of the rural planning strategy should also address the future and existing Federal and State requirements affecting biodiversity, and guide the strategic allocation of public and private resources. Biodiversity strategies should also consider adjoining and regional areas of value, and ensure integrated management of natural areas to maintain biodiversity assets in the City.

### 5.3.2 Remnant Vegetation

Approximately 43% of the original extent of native vegetation remains within the City of Swan, with only 6.5% under formal protection locally. The City of Swan has one of the largest areas of natural environment in the Perth metropolitan area, with 45,730 hectares of remnant vegetation remaining across all landownership types. Approximately half of remnant vegetation remains on privately-owned land.

Careful consideration should be given to the retention of native remnant vegetation when allocating the location of future developments, including rural living, which require removal of vegetation, or the implementation of a non-natural fire regime, for bushfire protection. Buffers and setback distances from intensive agricultural activity may also be required to protect areas of particular biodiversity conservation value. The extent of remnant vegetation and the associated areas of particular conservation value in the City of Swan are documented within the draft Local Biodiversity Strategy (City of Swan 2005). Due to the extent of clearing, particularly on the eastern side of the Swan Coastal Plain, all remaining areas of native vegetation have some conservation value (Keighery and Trudgen, 1992) indicating permits for further clearing for agriculture are unlikely to be granted.

The City's draft Local Biodiversity Strategy shows the linkages or corridors under Bush Forever (WAPC 2000). Proposed rural developments, rural living and agricultural activities may need consideration in terms of their ability to compromise the establishment of these linkages. In terms of Declared Rare or Priority Listed Flora, and Threatened Ecological Communities, whilst having conservation values, they are invariably located within remnant vegetation areas which, for reasons mentioned above are not considered for further agricultural or residential development.

Any proposal for development or rezoning that may have an impact on remnant vegetation should require a detailed flora survey carried out in accordance with *EPA Guidance Statement: Flora and Vegetation Surveys (No. 51)* (EPA, 2009).



### 5.3.3 Fauna

The rich number of unique fauna species in Western Australia is the result of relative isolation, with some species naturally restricted to small geographic areas or are otherwise rare. Such examples include the Western Swamp Tortoise and the Carnaby's Black Cockatoo, both reliant on the rural parts of the City to support their habitat.

Development proposals and land uses in rural areas may have the potential to affect the habitat of native fauna species, some of which are protected under federal legislation. Any proposal for development, rezoning or subdivision which may likely impact or influence habitat for local fauna will be required to undertake a fauna survey to identify sensitive or threatened fauna species which exist, to allow protection and retention of adequate fauna habitat and protect and maintain ecological corridors in perpetuity. Surveys should be undertaken in the early planning stages of proposals in accordance with *EPA Guidance Statement: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia* (EPA 2004b), to the satisfaction of the EPA to achieve environmentally acceptable outcomes.

### 5.3.4 Waterways

The City's rural land contains a number of significant waterways occurring within the catchment of the Swan River Estuary. The Swan River Estuary extends approximately 60km upstream from Fremantle to the confluence of the Ellen Brook with the Swan River. Within the City of Swan its catchment area includes the lower parts of the Brockman River, Avon River and Wooroloo Brook catchments that occur predominantly within the Darling Plateau, as well as Ellen Brook and a number of other smaller catchments mostly located on the Swan Coastal Plain. Surface water catchments are shown in Figure 4.

Salinity levels and consideration of environmental flow requirements means there is little potential for significant irrigated agricultural activities within the City of Swan's rural lands to be sustained by water obtained directly from natural watercourses.

### 5.3.5 Wetlands

Wetlands and areas subject to high water table and/or flooding need to be carefully considered in relation to agricultural land use due to the risk of nutrient additions from intensive forms of agriculture, the potential for reduced productivity, and possible conservation values associated with the more natural areas.

Wetlands include areas of permanent, seasonal or intermittent inundation (lakes, watercourses and sump-lands) as well as seasonally waterlogged areas (damp-lands).



Figure 5 shows the extent of designated wetlands and floodplain areas in the City of Swan, some of which contain important and viable natural assets (conservation category wetlands—CCWs). These areas need to be avoided in relation to direct agricultural activity, certain rural industrial land uses and the application of buffers or setbacks needs to be considered during the planning process.

Shallow groundwater is also an important consideration where development involves cut and fill drainage and on-site effluent disposal which must achieve a minimum separation from groundwater to be environmentally acceptable.

## 5.4 Bushfires

The presence of rural residential and other rural living properties increases bushfire risk. Many of the preferred rural residential sites tend to have steep topography and are rugged and heavily vegetated, for reasons of maintaining rural amenity and privacy. These locations are difficult to protect from bushfires due to a combination of factors, including: lack of access for firefighters; lack of escape routes for residents; and steep slopes and dense vegetation combining to create very intense, difficult to suppress fires. Other fire protection problems associated with rural residential development include: remoteness of firefighting services; lack of abundant and accessible water supplies; construction of 'rustic' fire prone homes; and inadequate fire management requirements on adjacent, sparsely populated lands.

The City of Swan has undertaken an assessment of the bushfire risk in the form of a Bushfire Risk Analysis (BRA) to inform rural settlement and land use planning. The methodology and results of the BRA are outlined in Appendix 1 of this report; bushfire risk is considered to be a development constraint and the mapping produced from the BRA informs local strategic planning for bushfire risk mitigation. Mapping of bushfire risk is shown in Figure 25.

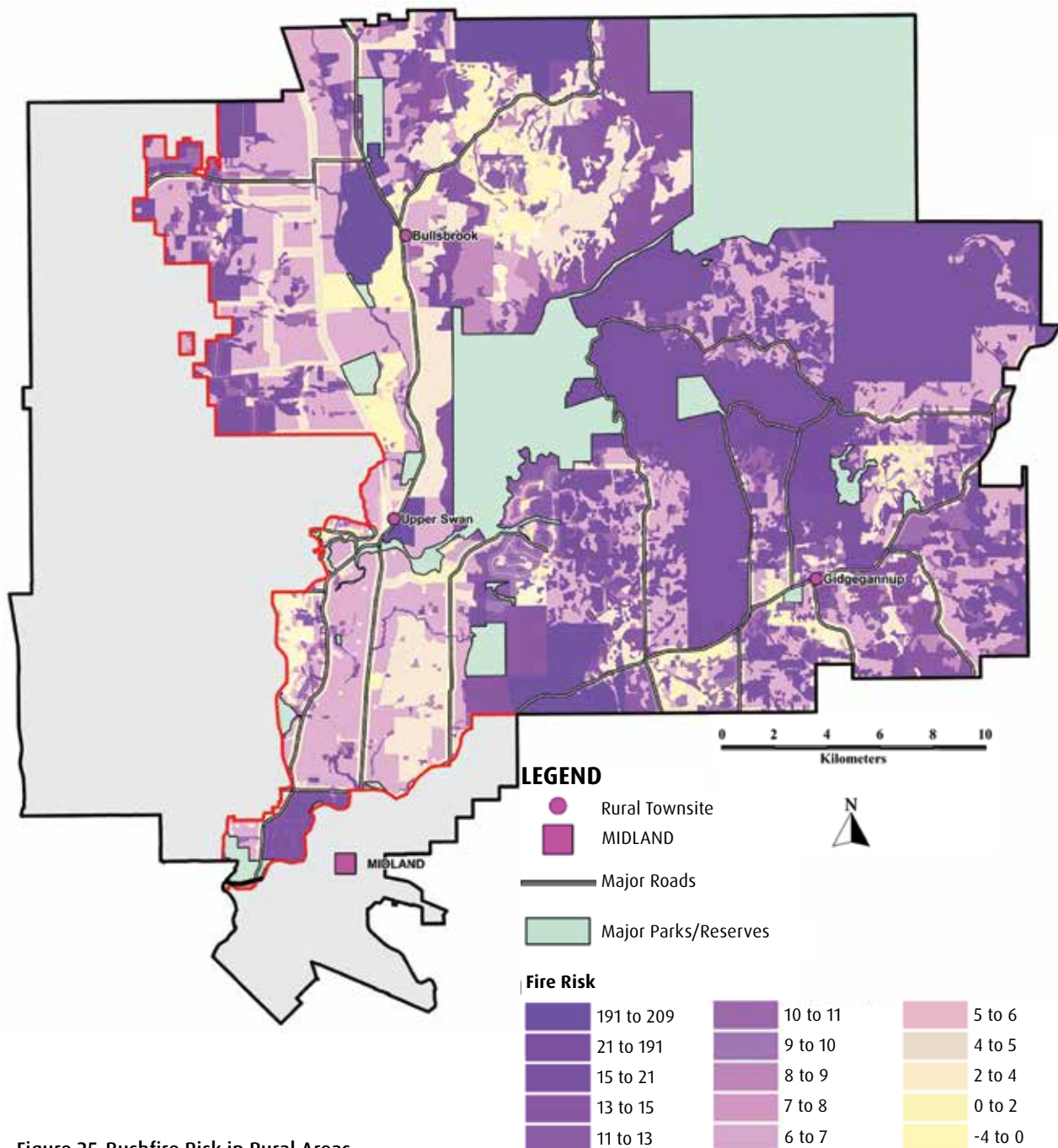


Figure 25. Bushfire Risk in Rural Areas

#### 5.4.1 Bushfire Risk vs. Bushfire hazard

When applying a fire management strategy or strategic plan, there needs to be some distinction between the two terms: hazard and risk. Hazard is defined as: any situation or intrinsic property that has the potential to cause harm to people, property or the environment. Whereas risk is defined as the likelihood of harm occurring from hazard.

Classification of the bushfire hazard by assessing the predominant vegetation is a key to determining site suitability for subdivision and development, and if deemed suitable, the potential level of construction standards determined by Australian Standards 3959. Identifying areas with a potential bushfire risk does not mean the area will be under the perennial influence of bushfires, rather during the fire season (November–March in South-western Australia) there are increased chances of bushfires.

In relation to a fire, a ‘bushfire prone area’ can be defined as ‘an area that can support a bushfire or is likely to be subject to bushfire attack’. For the purposes of implementing planning and building controls, a ‘bushfire prone area’ is any area subject to attack by embers, radiation, direct flame or any combination of each.

An analysis of bushfire hazard in City of Swan at the strategic level has been undertaken based on parameters and methodology defined by the State Government in *Planning for Bushfire Protection Guidelines*. The mapping assessment has been undertaken for the entire City of Swan municipal area. The bushfire prone land mapping assessment is consistent with the approach outlined in the abovementioned State publication. The methodology rates bushfire hazard using vegetation type and specifies three hazard levels: low, moderate and extreme.

Formalised Bushfire Prone Areas (BPAs) within the City of Swan are designated by the Fire and Emergency Services Commissioner and are available at the Department of Fire and Emergency Services (DFES) website. The BPAs inform whether a property of interest is contained in, or partially within, a bushfire prone area. Areas designated bush fire prone are subject to specific planning and construction requirements to ensure future development of fire prone properties are better protected from the risk of bushfires.

#### 5.4.2 Response to bushfire risk

Any development or rezoning in the City's rural lands should take advantage of existing bushfire fighting infrastructure such as strategic firebreaks and firefighting water supply, with preference given to 'infill' locations of existing rural living rather than creation of new estates. It is inefficient and costly to provide individual firefighting appliances for each dispersed development and the cost of providing firefighting equipment is in many cases borne by the community and not developers who benefit from the sale of the development. A more equitable form of funding is required for the provision of firefighting equipment. To achieve this will require the development of a comprehensive fire equipment strategy that sets out equipment replacement and purchases required as a result of ongoing development. Subject to endorsement by the WAPC, this will then provide a framework for development contributions to the City for this purpose.

During the assessment of proposed developments in areas within moderate and extreme bushfire hazard, it should be acknowledged that bushfires are just one issue in the broader planning context and should be considered alongside other factors such as biodiversity protection, visual landscape and maintaining rural character, land capability, natural resource availability and servicing/infrastructure constraints.

There are some rural areas in the City that regardless of whatever bushfire mitigation measures are taken, a loss of buildings in the event of a bushfire will result. The major factor in any bushfire event is the prevention of loss of life and the fact remains that in some cases loss of buildings will occur. Whilst local firefighters cannot be expected to risk their lives attempting to fight fires in such high risk areas, there may be some retrospective building modifications that can increase the survivability of dwellings and buildings in these locations.

### 5.5 Swan Valley Land Use and Management

Land use and management of the Swan Valley is dictated largely by its own statute, the SVP Act (SVP Act), which provides the regulatory framework beyond the *Planning and Development Act 2005*. The SVP Act communicates the general vision for the Swan Valley, namely: to retain the traditional character and activities associated with the area—viticulture, agriculture and horticulture; the protection of the environment and character of the area; reduction of nutrient levels in the Swan River; and the promotion of tourism that complements the rural character of the Swan Valley.

Whilst the SVP Act establishes planning objectives to preserve the Swan Valley for rural and tourist-based activities, some of the regulatory requirements have limited how the Swan Valley area progresses through supporting development of primary production and other compatible land uses. It is acknowledged that there are some perceived deficiencies when implementing the SVP Act, namely the representation and roles of the Swan Valley Planning Commission, WAPC and City of Swan when determining development applications under the Local Planning Scheme (or development approval under the MRS). As such, there is some pressure to modify the planning framework, namely the SVP Act and the decision-making processes, to focus on specifying and targeting the strategic outcomes that have emerged from recent inquiries on management and land uses in the Swan Valley.

In December 2013, the DoP released a discussion paper outlining concerns of various decision-making bodies and the community, also providing a list of recommendations to improve the Swan Valley regulatory framework and land use planning. The City of Swan should consider the recommendations expressed in the discussion paper and inform a local planning framework for the Swan Valley. The City should proactively address the specific rural planning issues influencing the Swan Valley through input in to current studies being conducted by the Department of Planning on instruction from the Minister for Planning, to provide for the sensible planning and prudent management of land use in the Swan Valley to protect, maintain and enhance the historical advantages, whilst facilitating community resilience, guided economic diversity and managed growth.





## 5.6 Rural Living

Rural Living comprises of land uses, primarily residential in nature, ranging between 2000m<sup>2</sup>–40 hectares. Services normally provided in urban areas however, including community facilities, are usually limited in such areas. In some instances, primary production can still occur on rural living properties due to larger lot configurations and adequate management of land, however most of these activities are of a non-commercial (i.e. hobby farming) scale and nature or are incidental income generators. Rural living land use zones under LPS17 include Rural Living (pursuant to Area C of SVP Act) Rural Residential, Special Rural and Landscape Protection zones. Careful consideration should be given to the future location of Rural Living zones, due to a number of factors including, but not limited to: limited serviceability; inherent bushfire risk; increased infrastructure costs; impacts on primary productivity and natural resource management; and maintaining buffer requirements from residential land use activities.

Whilst the City acknowledges the perceived demand for rural living, preference must be given to productive rural land uses as the best use of land zoned for rural purposes. In accordance with DC Policy 3.4 and SPP 2.5, creation of new rural lots will be by exception, and in accordance with the objectives and precincts identified in this Strategy.

### 5.6.1 Rural-Residential Living

There is seen to be a significant market demand for rural residential and 'lifestyle' lots within the rural areas of Swan. The City often receives requests for amendments in the rural area to allow for the development of lifestyle lots outside of the core townsites. Currently this development is proceeding in a manner not well co-ordinated which could impact the proper provision of services and cohesion with various fire management strategies. These issues are prevalent mostly in Gidgegannup and surrounds, as well as rural residential estates to the east of the Bullsbrook townsites.

Currently the City does not employ a mechanism that requires developments to contribute to the provision of

community facilities in a townsites area where development is occurring outside the townsites. The City needs to determine a mechanism and the circumstances which it will get involved in developer contribution schemes, and where it will allow the market to provide infrastructure as an area develops. A consideration in assessing the need and demand for further rural-residential or similar subdivision and development is the rate and proportion of development occurring and occupancy/vacancy of such developments.

### 5.6.2 Rural Smallholdings

The City of Swan currently does not have any provisions for 'Rural Smallholdings' zones, and it is not identified as a zone in the LPS17. Rural Smallholding zones are sub-sets of rural living, where developments are undertaken in a large estate with a predominantly lifestyle focus rather than primary production. Whilst primary production can still occur on rural smallholding allotments, it is not guaranteed. Land parcels in rural smallholding zoned lots traditionally range between 4–40 hectares in area and may be capable of generating smallholding profits.

Introducing a 'Rural Smallholdings' zone in the Scheme may be feasible where it can be demonstrated that subdivision and development can occur in a manner which maximises economic output of land, facilitating a range of rural living opportunities and other tourist and recreational uses whilst having due regard to the rural capability of the land. Non-traditional forms of rural business activity may be undertaken in these types of lots, including boutique crops and horticulture, tree farming, fruit orchards and innovative, small scale, intensive agricultural activity.

Specific land use requirements may be enforced through the structure planning process, including but not limited to: management of stock; bushfire management; water supply (for primary production and domestic use); connectivity to the existing road network; retention of rural character; location of development areas and building envelopes; and buffer requirements. There is some potential to develop lots into the 4–40 hectares range where conditions and access to commercial quantities of surface and groundwater exists.

## 5.7 Rural Land Use Conflict

The City of Swan has a diverse range of land uses in rural areas, with varying on- and off-site impacts which need consideration particularly when applying rural settlement planning and natural resource management principles.

Agriculture and Viticulture areas within the City are facing significant issues in terms of encroachment of non-compatible land uses. Proposed residential land uses in proximity to agriculture and viticulture areas are resulting in the need to incorporate buffers into developments to protect the operation of these pre-existing uses. The Swan Valley is an example of an area which is experiencing issues in this regard—there has been pressure on the existing viticultural uses from surrounding developments in the Urban Growth Corridor.

Further investigation is required to determine what appropriate interface treatments between land uses, to limit the interference between conflicting land uses, is required by the City.

### 5.7.1 Potential for Land Use Conflict

Outside of the more remote portions of the Bullsbrook and Gidgegannup Place Areas the proximity to expanding urban and light industrial developments brings about the potential for land use conflict. The dispersal of housing throughout the rural areas also introduces people with urban values into a rural environmental and a number of conflicts can occur, generally between land uses and lifestyles (Department of Urban Affairs and Planning 1995). Land use conflict is well documented and can result from agricultural practices or from residential land use.

Pressure on full-time agriculture in the City of Swan is primarily related to increasing land values as the interface with Perth's urban areas encroaches. In common with many parts of Australia, inflation of rural land values and associated fragmentation of land in response to development opportunities, make it difficult for new farmers to enter the industry or for agricultural activities to expand. In addition to the generic pressures on agriculture within an urban fringe environment, continued long-term agricultural use within the City of Swan is disadvantaged. This is because much of the land occurs in relatively small lots, and hence is readily available to the Rural-Residential/Rural Living land market (Figure 7 illustrates the existing pattern of lot sizes).

Small rural lots are particularly attractive to people who wish to either establish a small rural activity within easy reach of Perth, or who wish to retire from the city environs within easy access to the city. Lifestyle conflicts can then potentially arise as a result of different outlooks on the rural environment—with those involved in full-time agriculture trying to make a living and new residents wanting a quiet rural lifestyle with its associated scenic and environmental benefits.

Although commonly thought of as a synergistic relationship, tourism can be a source of land use conflict with agriculture. In the Swan Valley, the WAPC (2012a) reports that conflict between existing productive agriculture and adjacent lifestyle and/or tourism, particularly general tourism uses, threatens to compromise the long-term viability of viticulture due to incompatible activities that impair tourist safety and amenity (i.e. by noise, dust, hours of operation, spray drift, etc.). Buffer areas are commonly used as a means of minimising land use conflict, with those associated with intensive agricultural industries such as poultry farms being most commonly applied. Their application in relation to viticulture and horticultural areas can be more problematic without industry support. Often this is difficult to obtain where the agricultural landholders see their industry as being in a state of transition. They may not wish to see subdivision opportunities sterilised, impeding their ability to leave the locality, either with a form of 'superannuation' if retiring or with sufficient capital to enable relocation to a different agricultural area if continuing in the industry.

In established mixed use areas, sensible coexistence of land uses can occur where there is general community awareness and acceptance of farming practices. There can also be associated tourism and scenic amenity benefits from mixed uses in some areas. Such benefits might be precluded by rigid adherence to buffers or setbacks which, although aimed at assisting agricultural industries to remain in an area, may have little real effect when considered against the dominant impact of land values.

Where considered necessary, secured access to or protection of agriculture requires that it be given primacy in relation to other possible uses of rural land. In a competitive land use situation such security is unlikely to be provided unless agricultural areas are of some particular significance at national, state or local level and that environmental sustainability of such use has been demonstrated.



### 5.7.2 Buffers

Intensive agricultural land uses have the potential to generate land use conflict when they occur in proximity to residential areas; including rural residential estates. Buffers are therefore commonly considered as a means of avoiding future conflict and protecting agricultural land uses and the extraction of natural resource materials.

#### Poultry Farms

The location of poultry farms can create conflicts due to associated odour, noise, visual amenity, dust and heavy vehicle traffic impacts. *State Planning Policy No. 4. 'Poultry Farms'* (WAPC, 2003b) introduces buffers for poultry sheds as follows:

- 500 metres from any existing or future residential zone.
- 300 metres from any existing or future rural residential zone.
- 100 metres from the boundary of the poultry farm.

#### Viticulture

The location of viticulture can create conflicts due to pesticide spray drift and associate odour and machinery noise. Buffer requirements for viticulture are not as established or enforceable as that for poultry farms, and are based on generic guidelines or suggested distances from a number of agencies.

EPA guidelines (*EPA Guidance Statement No. 3*) suggest a separation distance of 500 metres between viticulture and sensitive land uses such as residential development.

The Department of Environment and Conservation (DEC) in *Environmental Management Guidelines for Vineyards* (DEC, 2011) suggest a minimum 300 metre buffer distance downwind from the release point in relation to spray drift.

The Department of Health in *Guidelines for Separation of Agricultural and Residential Land Uses—Establishment of Buffer Areas* (DoH, 2012) have largely adopted best practice standards described by the Queensland Department of Natural Resources (DNR, 1997) which allow a 40 metre minimum separation distance to be used where a vegetative buffer has been adequately designed, implemented and thereafter maintained.

#### Other Intensive Land uses

EPA guidelines (*EPA Guidance Statement No. 3*) also suggest the following separation distances or buffers from sensitive land uses:

- 100 metres from nurseries (no composting on-site);
- 500 metres from turf farms and orchards; and
- 300–500 metres from market gardens.

#### Extractive Industries

Extractive industries comprise various different materials being extracted and the off-site impacts vary considerably depending on the material being sourced. For the purposes of EPA applying buffers and managing off-site impacts on the environment, extractive industries are considered to be types of industrial land uses. Depending on the nature of extractive industry the following buffer distances are applied:

- 300–500 metres from sand and limestone extraction (no grinding or milling works);
- 1000 metres from hard rock quarrying (including blasting, crushing and screening); and
- Other materials with grinding and milling or separation by sieving, aeration are dealt with on a case by case basis determined by the types of impacts.



### 5.7.3 Rural Industry and Transport Depots

Rural Industry and Transport Depots are respectively discretionary and 'not-permitted without Council discretion' uses in General Rural zones, both having potential to negatively impact on other incompatible land uses such as residential, agriculture and sensitive environmental features such as wetlands, riparian corridors and remnant vegetation. Rural Industry incorporates servicing of plant and equipment, including minor mechanical repairs, used for rural purposes. This is a fairly ambiguous definition that can include equipment ranging from farming equipment to heavy earthmoving equipment.

Transport Depots can also be ambiguous in nature due to the broad interpretation of its land use definition and are similar to primarily industrial land uses. Transport Depot land uses may be considered in specific rural locations such as Upper Swan and Bullsbrook, whereby they service the immediate and surrounding rural areas.

### 5.7.4 Agroforestry vs. Tree Plantations

Agroforestry is currently defined as a land use under LPS17 and includes any commercial tree production and agriculture where trees are planted in blocks of more than one hectare. An emerging land use in rural parts of the State's southwest are Tree Plantations, which can be similarly defined as Agroforestry, however includes planting of trees for harvest as well as for environmental benefit such as carbon sequestration. The emergence of tree farming as a primary production activity that also sequesters carbon should be factored into the local planning framework.

SPP 2.5 (2012) recognises tree farming as a legitimate rural land use as a means of diversifying the rural economy and creating environmental benefits, where appropriate site conditions allow. Tree farming is generally acceptable on rural land and is permitted in most rural zones however locations should be avoided where development of tree farming creates an extreme or unacceptable bushfire risk or where priority agricultural land has been identified. Strategies and actions and concurrent Scheme and policy provisions for tree farming and agroforestry in rural areas should align with these State objectives.

## 5.8 Tourism and Recreation

There are significant opportunities in the rural parts of the City for tourism. Key attractions such as the Swan Valley and the wide range of cultural and natural features found in rural areas contribute to the local economy. Competition for rural land from a range of other commercial and non-commercial tourism uses continues to occur in various parts of the City's rural lands. These include a variety of tourist specific developments (e.g. restaurants, wineries, breweries and recreation attractions etc.) with a large proportion being confined to the Swan Valley Place Area. These types of land use activities do not fundamentally change the physical ability for land to accommodate rural uses when compared to urban development; however there is still potential for tourism to conflict with agricultural land uses particularly where there is an expected level of amenity. Impacts such as spray drift, dust, odour, noise and traffic are accepted to a certain degree in rural areas as they are characteristic of the regular rural operations, but may not be appropriate in a tourist related setting. Management and mitigation of the conflicts between traditional agricultural land uses and tourism are significant in determining long-term land use allocations.

### 5.8.1 Trails

Given the many areas of natural beauty, cultural significance and other attractions such as National Parks and the Avon and Swan Rivers, trails are an important feature of the rural fabric and can bring recreation and tourism opportunities to the City. The Avon Valley and Walyunga National Parks are within close proximity to other regionally significant areas of interest and recreation hotspots such as John Forrest National Park. There are also numerous horse agistment and stables in the rural parts of the City, particularly in the Swan Valley and Bullsbrook place areas.

State significant trails such as the Munda Biddi mountain bike trail and Bibbulmun Track (walk trail) are within close proximity of the City of Swan. There are opportunities to provide linkages with the City's own trail network to regionally and state significant trails and other natural features such as National Parks and the Swan and Avon Rivers. There are many types of trails which can enhance the rural environment with opportunities for walking, cycle, bridle (horse) and water-based (canoes and kayaks) trails. A coordinated, centralised plan should be established at the local level. Opportunities exist for developing a cohesive trails network through the City's rural areas, linking with other parts of the City, which will have benefits to the City's local rural economy.



### 5.8.2 Tourism-based Land Use

Tourism is a key part of the economy in the rural parts of the City, in particular the Swan Valley. The City should support the ongoing development of tourism-based business and land uses across its municipality, including the provision and enhancement of tourism accommodation and other facilities to encourage longer stays. Rural areas are fundamental in maintaining the role of tourism in the City as they contain significant natural attractions and tourism amenity. Tourism development in rural areas requires careful consideration in order to coexist with primary production and positively contribute to the rural landscape. In addition to this, tourism should be factored in with rural settlement objectives, specifically where intensification of urban and semi-rural development is expected near existing townsites.

Appropriate tourism-based land uses in rural areas can provide supplementary income and support farming businesses that may be restricted due to a lack of viable agricultural land or restrictions on water supply etc. It is recognised in the City, as in other rural parts of Western Australia, that there are opportunities for a small number of larger non-farm-based tourism enterprises in rural areas, however such land uses need to be carefully designed and located so as not to compromise the productive capacity or landscape of rural areas.

### 5.8.3 Short Stay Accommodation

An important component of tourism is the supply of short stay accommodation, including hotels, motels, farm-stay accommodation, chalets, resorts and other low scale forms of lodgement whereby there is an on-site manager or owner present, such as guesthouses and bed and breakfasts. Short stay accommodation in rural areas caters for tourist activities and should occur within appropriate locations to enhance the tourist experience and reduce land use conflicts such as impacts associated with nearby farming operations or other rural land uses. It is acknowledged that, in certain locations, the renting of residential premises for short stay accommodation is a legitimate way in which alternative, short stay tourism accommodation can be provided.

## 5.9 Rural Character

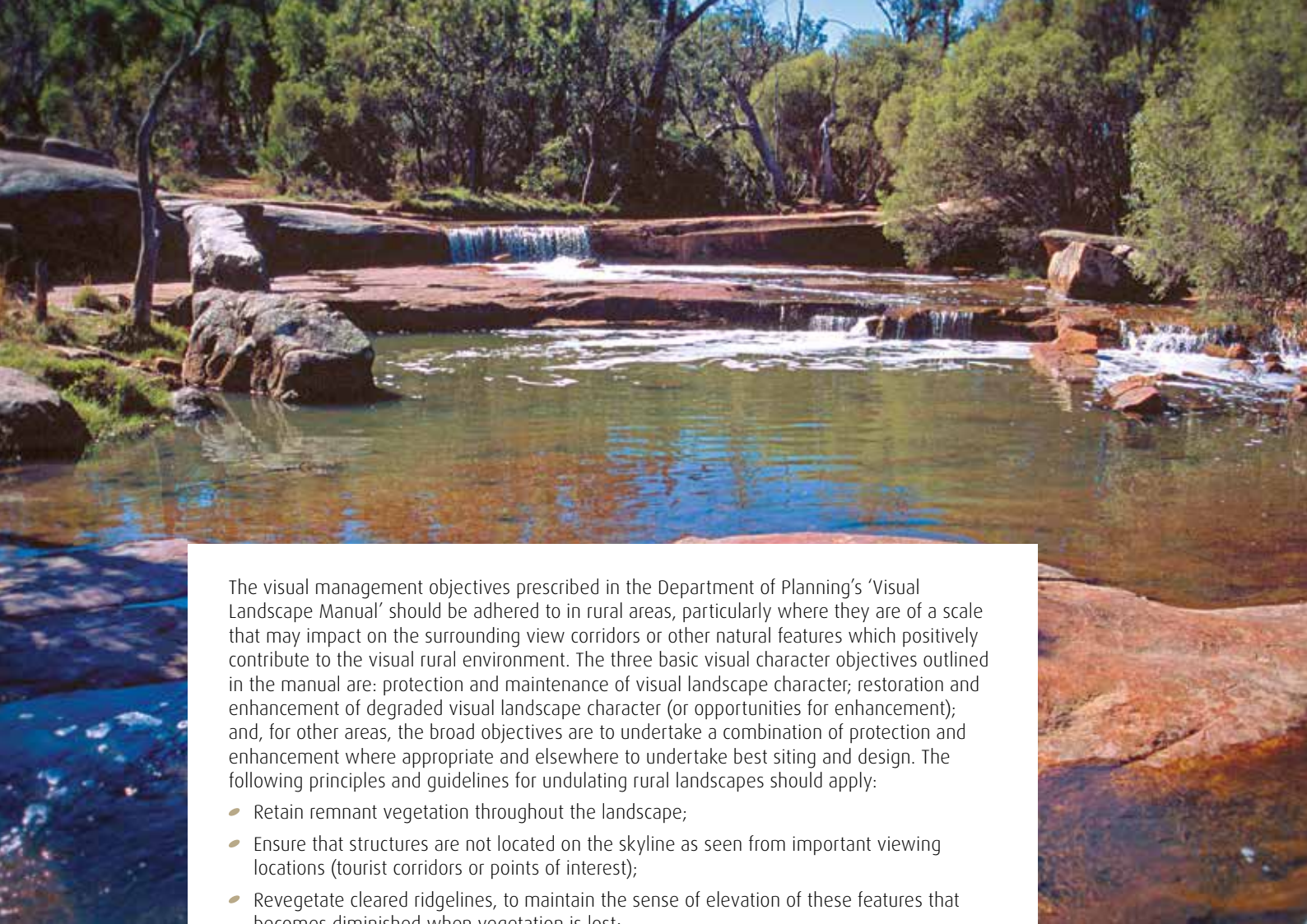
Rural character is made up of a number of components which contribute to the sense of openness and natural beauty experienced in the City's rural areas, as well as artificial features such as farms and associated buildings. The diversity of rural land use activities and various landscapes influenced by geographic features, physical remnant vegetation and other environmental features contributes to a diverse rural character.

It is an objective of the LRPS to maintain rural character, including landscape values that positively contribute to the sense of place in rural areas of the City.

### 5.9.1 Landscape

The visual landscape provides a backdrop for the enjoyment of recreation and tourism participants, contributing to the experiences. Rural parts of the City provide a sensory 'relief' from urban areas of the wider Perth metropolitan area. With pressures from tourist-based development and encroachment of urbanisation at the rural interface, it is important to address visual landscape at the strategic level, in combination with assessing specific development proposals at a particular site which may encroach on landscape values. Much of the City's rural areas consist of rural landscapes comprising of hilly, vegetated and undulating terrain. Some of the land towards the Swan Valley and parts of Gidgegannup support horticulture and vineyard activities which also contribute to tourism and recreation experiences.

Landscapes in the City's rural areas which are worthy of retention include natural features such as hilly terrain, ridgelines, valleys and areas of significant remnant native vegetation. Cultural features such as the linear grid patterns of grape vines and other fruit trees throughout the City are considered to have significant value. For tourism developments in valued rural areas such as the Swan Valley, the principle issue is achieving a balance between providing accessibility and other facilities whilst maintaining the visual landscape characteristics which attract tourism and recreation activity to the area. There are increasing pressures for change in the landscapes, particularly at the rural/urban fringe, where there is a decline in horticultural uses in anticipation of future or planned urbanisation.



The visual management objectives prescribed in the Department of Planning's 'Visual Landscape Manual' should be adhered to in rural areas, particularly where they are of a scale that may impact on the surrounding view corridors or other natural features which positively contribute to the visual rural environment. The three basic visual character objectives outlined in the manual are: protection and maintenance of visual landscape character; restoration and enhancement of degraded visual landscape character (or opportunities for enhancement); and, for other areas, the broad objectives are to undertake a combination of protection and enhancement where appropriate and elsewhere to undertake best siting and design. The following principles and guidelines for undulating rural landscapes should apply:

- Retain remnant vegetation throughout the landscape;
- Ensure that structures are not located on the skyline as seen from important viewing locations (tourist corridors or points of interest);
- Revegetate cleared ridgelines, to maintain the sense of elevation of these features that becomes diminished when vegetation is lost;
- Develop a set of performance criteria in relation to building density. These criteria should relate to the number of buildings visible in a landscape before its character is perceived to have changed from rural to 'urban' in character;
- Valued views should be identified and maintained by allocating buildings and development away from prominent outlooks; and
- View corridors should be identified and maintained to important elements in views, such as a vista to scarp, and not obscured by buildings or structures, dense roadside plantings or plantations.

Some prevailing and proposed rural land uses have local policies which deal with the scale and nature of development and impacts on visual landscape (extractive industries for example). Other forms of rural industry or land uses such as plantations may detract from rural character. The City should explore establishment of a long-term vision and goals for desired rural character. Defining a set of performance criteria specific to visual management issues may protect visual rural landscapes at the local level.

## 5.10 Infrastructure

There are currently no mechanisms for feasibility of the provision of infrastructure and community facilities to be considered prior to the planning, and consequently rezoning of rural land. This is causing significant issues within the City and is creating unreasonable expectations on the development capability of land, and resulting in unsustainable increases in rates.

The City needs to consider what its role is in the provision of hard and soft infrastructure within these growth areas. There is currently a lack of co-ordination of infrastructure in rural areas, particularly given there are no standard requirements for community infrastructure in rural areas (as SPP 3.6 only applies in urban areas). The City will not support any development without appropriate infrastructure and services, and will continue to seek ways to obtain contributions for community infrastructure, particularly for Rural Living type developments which require reasonable levels of infrastructure and provision of services.

# Appendices

Appendix 1—Strategic Bushfire Risk Analysis

Appendix 2—Land Capability Assessment



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