

North Wanneroo Agriculture and Water Taskforce

Recommendations to The Hon. Alannah MacTiernan, MLC Minister for Agriculture and Food

Thursday 16 August 2018



Forward

Sabine Winton MLA Member for Wanneroo

As the chair of the North Wanneroo Agriculture and Water Taskforce it has been my privilege to deliver the McGowan Government's election commitment towards resolving water allocation and land use issues in North Wanneroo.

North Wanneroo has been a traditional market gardening and rural area with a rich and colourful history. Today this area is important for the supply of locally sourced fresh, seasonal and diverse agricultural produce for the Perth-Peel metropolitan area.

The issues at the heart of this taskforce's deliberations around water allocation and land use security have been ignored for a number of years despite the landmark study undertaken by the previous Labor Government. The Future of East Wanneroo –Land use and water management in the context of Network City 2007 clearly recognised the competing demands for groundwater, future land use and development and environmental protection.

As a result of this neglect growers are now facing the challenging circumstances of potential reductions to their water allocations at a time of increasing competitiveness and marginal profitability. These circumstances together with the continued pressures of creeping urbanisation has resulted in a market gardening sector at real risk of decline.

This taskforce has brought together a number of agricultural water users and key industry and government stakeholders to help formulate an informed response designed to restore confidence and support for the existing industry as well as developing a pathway towards creating a sustainable and prosperous future.

As a group the taskforce met formally on 6 occasions. These deliberations were complimented by numerous meetings and briefings with individual members by me as the Chair, to drive and develop recommendations for our consideration. I particularly want to acknowledge and thank all of the local landowners who volunteered their time to be part of this taskforce.

Whilst the membership of the taskforce is representative of the broad range of growers and landowners in our area of interest, it must be acknowledged that there is no formal incorporated body or land owners group that exists that represents the local industry. As such, vegetablesWA representation was invaluable.

Additionally, I undertook a significant amount of consultation directly in the field and visited many growers to seek their views and better understand their operations. I would like to thank them for their valuable contributions. The Vietnamese community make up a significant portion of the growers in North Wanneroo and vegetablesWA and Mr Truyen Vo in particular, provided me with critical support in my engagement with the Vietnamese growers.

With such a wide level of consultation and broad representation on the taskforce it is not surprising that a large range of views, at times diametrically opposed, generated

multiformity to our work. My approach has been to give focus to the views of the growers given that the intent of this taskforce was to listen to them. Whilst it is clear that there are some growers who are seeking to exit the industry and therefore are promoting land use changes, I have ensured that the focus of our work was in line with the terms of reference set by the Minister for Agriculture and Food. Water licence allocations, investigating a new water supply and future precinct are the fundamental issues that need to be resolved by the State Government and any alternate land use aspirations as promoted by some landowners is premature.

The process has been robust, collaborative and has resulted in consensus. To that end I am confident that the recommendations presented in this report are broadly supported by local growers.

The taskforce has also had significant input and support from the various Government agencies. It is important to recognise that not all of the recommendations have the unanimous support of agencies and my expectation is that those variations in views will be represented to the Minister for Agriculture and Food through the normal government process.

I have received a strong and consistent message from growers that proposed reductions to their water licence allocations will have direct impacts on the viability of their existing operations. Whilst some growers have developed water efficiency practices, it is true that there is much more that can be done by the sector to achieve even better water efficiency outcomes. However, water efficiencies, whilst important and addressed through a raft of recommendations, are not a solution to the water shortages that are imminent.

It is clear that without a new source of water, market gardening in Wanneroo will decline and have a limited long term future. The work currently being undertaken by DWER in readiness for the next Gnangara groundwater allocation plan indicates that a new water source is needed by 2022. Whilst it is acknowledged that there is a requirement to rebalance the Gnangara take which is currently over allocated and further impacted by a drying climate, it is my strong view that the 25 per cent cuts being contemplated could make many of the current producers unviable, even with best practice water efficiencies.

The recommendations of this taskforce around water allocations and water efficiencies reflect that view and seek to support growers in maintaining their current operations.

As was identified by The Future of East Wanneroo study, the future of agriculture in Wanneroo is very much dependent on developing a new source of water. There is enormous potential to utilise waste water from the Alkimos Wastewater Treatment Plant. As a result, the Taskforce recommends that the Government should undertake a pre-feasibility assessment of treated wastewater reuse for irrigated agriculture in North Wanneroo to determine definitively whether this is a long term option to sustain agriculture in North Wanneroo.

The Taskforce also recommends that the State Government develops a high level business case including planning and land use assembly pathways for identifying and securing land for a new horticultural area in State Forest 65.

These two major recommendations seeking to secure the long term viability and expansion for agriculture in Wanneroo must be considered and developed together.

It is important to acknowledge that whilst there has been a multitude of studies completed over the years around the challenging issues of water and land security in North Wanneroo, disappointingly none of that work has resulted in offering real protection and opportunities for growth for our growers. Under those circumstances it is easy to understand some of the scepticism and lack of confidence expressed by some growers.

The taskforce recommends that there needs to be strong oversight and coordination to deliver the Government's commitment to actualise land and water security. This will come from a whole of Government commitment by way of an inter-agency steering committee to drive these recommendations.

The recommendations within this report are specific, complex and in some instances challenging under existing Departmental policy regimes. I have sought to bring together key government and industry stakeholders to consider issues that have held back agricultural development in Carabooda, Nowergup and Neerabup.

North Wanneroo is well established as a prominent horticulture area. The area has great potential for growth. State Government leadership is required to ensure greater coordination between Government agencies, industry and the City of Wanneroo.

Finally, I would like to take the opportunity to thank the Minister for Agriculture and Food for establishing this taskforce and providing the executive support through the Department of Primary Industry and Regional Development.

On behalf of the members of the Taskforce we look forward to this report's recommendations being given due consideration by the Hon. Alannah MacTiernan, Minister for Agriculture and Food.

Executive Summary

The North Wanneroo Agriculture and Water Taskforce (the Taskforce) was established by the McGowan Government delivering on its election commitment to work towards resolving water allocation and land use matters in North Wanneroo.

North Wanneroo is well established as a local food production area north of the Perth metropolitan area, with agricultural production located in the areas of Neerabup, Nowergup and Carabooda (Figure 1).

North Wanneroo has suitable soils and water, favourable climatic conditions for year-round production of horticultural crops, low frost risk, existing and well-developed infrastructure, and close proximity to a workforce and markets.

Local food production in the Perth region provides many social, economic and environmental benefits and underpins the resilience of the city. There are many direct and indirect benefits from the North Wanneroo's agriculture in the form of provision of fresh food, income, employment, tourism, cultural identity and contribution to State and national export markets.

Wanneroo's agriculture generates a significant contribution to the local economy and the state's agricultural exports. In 2015-16, the Australian Bureau of Statistics (ABS) estimated that City of Wanneroo contributed an estimated \$119m in gross value of agricultural production, approximately 30% of the total produced in the Perth region. North Wanneroo (Figure 1) was estimated to have gross value of agricultural production of \$47.7m (ABS, 2015-2016).

The horticulture industry provides a valuable source of fresh vegetables and fruit for the Perth market and there is estimated to be over 100 horticultural growers. Poultry farming and egg production for human consumption also occur. There are a number of nurseries that supply turf, cut flowers and plants to retailers and the landscape gardening sector (Figure 2). The City of Wanneroo's total agricultural sector employs nearly 1040 people across a variety of activities.

Challenges

North Wanneroo agricultural land users have been facing complex land use and water availability issues for many years. Increasingly the long term viability of the over 100 producers is being challenged due to declining groundwater supplies, conflicting adjoining land uses, high input costs including labour costs, transport costs and declining profit margins in a highly competitive market.

Declining water availability for agriculture and food production

Water is a major limiting factor for agricultural production and in a drying climate water is becoming an increasingly important issue. Perth depends on groundwater for public water supply and direct supply water which supports irrigated agriculture, rural lifestyle, sporting grounds and public open space. Water for agriculture in the North Wanneroo area is dependent on self-supply bores from the superficial aquifers of the Gngangara groundwater system.

The Department of Water and Environmental Regulation (DWER) is proposing up to 25% (3.3 gigalitres) reduction in groundwater abstraction in the Carabooda, Nowergup and Neerabup sub areas of the Wanneroo groundwater management area by 2030 to adjust to the effects of climate change and intensive water abstraction. The scale and method for how a reduction in groundwater abstraction is to be achieved is still to be determined by the Government, through the DWER's next *Gnangara groundwater allocation plan*. The draft plan is due to be released for public comment in late 2018.

The Taskforce is aware that many local growers have strongly expressed the view that reductions to their water allocations would add further pressures to their operations and their capacity to sustain current levels of production and would hinder any potential growth for the sector in Wanneroo.

There is also a view that water allocation reductions will help drive water use efficiencies and encourage better business practices. Whilst some North Wanneroo growers have invested in more water efficient irrigation systems, more can be achieved. There are barriers to improved irrigation practices including the low cost of water, the capital cost involved in upgrading systems and the labour cost involved in better irrigation scheduling. Many growers lease their properties and investing in new infrastructure is not financially viable for their businesses.

Demand for reliable and affordable new water sources for the future of agriculture

Water security is one of the major issues that irrigators are experiencing. Groundwater use in the three groundwater management areas of Carabooda, Nowergup and Neerabup is about 11 GL/ year, which is in excess of the current groundwater resource allocation limit of 9.95 GL/a.

The future demand in the area was assessed by DWER with the demand profile reviewed under a number of development and water efficiency scenarios. The estimated timing for when a new water source is needed is 2022. This is when projected water demand under a medium growth scenario exceeds the volume of water available under licensed water entitlements.

It is clear for the sustainability and growth of the agricultural sector a new water source has to be established. Without medium to long term water security finance can be difficult to obtain and irrigators and investors are reluctant to invest where the risk to returns is high.

For many years, the question of whether recycled water could be used to provide additional water to the area has been raised. DWER and the City of Wanneroo have lead the most recent investigations into the price of building infrastructure and the full cost of water supplied. The findings of the *Water Options for Intensive Agriculture – North Wanneroo (2018)* report were presented to the Taskforce. For the purposes of this water supply investigation it was assumed that an additional supply volume of 3 GL/year could be needed between 2022 and 2030. A number of source water options were considered: sewer mining, surface water, stormwater, wastewater, groundwater and desalination.

Many existing growers have advised that they would not want to pay for recycled water, while others see it as an opportunity particularly if the water was supplied to a dedicated new agricultural precinct in State Forest 65.

The cost associated with the alternative water supply options are significantly greater than the cost of the current groundwater supply for the North Wanneroo growers which is estimated at around \$0.15/KL depending on depth to water table and pump efficiency.

Increasing pressure on remaining rural land for agriculture and food production

An issue facing all cities around the world is the under-recognition of the value of the peri urban agriculture which contributes fresh, locally sourced food to the city population. Many of Perth's inner metropolitan food production areas have been lost to urban development as the city continues to expand to accommodate a rapidly growing population. North Wanneroo has 3300ha of rural zoned land on which the agricultural land is 1380ha. Approximately half the rural zoned land area is irrigated.

The State Government has set out that agricultural land is a resource to be protected and to provide a safe secure, high quality food supply for Western Australia. This is reflected in the Western Australian Planning Commission's *North west sub regional planning framework, 2017* which has as a key planning framework principle retain land for rural and agricultural purposes. North Wanneroo is zoned rural zoned land; however, the land has not been protected as Priority Agricultural Land (PAL) under the regional and local planning schemes. PAL is the mechanism under the *State Planning Policy 2.5 – Rural Planning* to protect priority agricultural land.

The City of Wanneroo supports retaining agriculture and other rural land uses for a diverse economy, tourism and job creation opportunities. Some landowners have expressed concern if the area was identified as PAL. Although PAL can specify the land uses, there was a view that this mechanism would place restrictions on non-agricultural activities such as basic raw materials (sand and lime extraction) and it was suggested that the area should allow compatible land uses. In the future, some landholders in Nowergup and Carabooda wish to sell their properties for urban subdivision to realise their 'superannuation' regardless of the future water availability. The reduction in water availability may provide a driver for these landholders to sell their properties to lifestyle investors.

The Taskforce notes that for agricultural land holders the flexibility of rural zones planning enables a complex mix of uses, such as rural residential, restaurants and short stay accommodation. Planning decisions can result in agricultural businesses having additional noise and odour restrictions placed on them due to the approval of incompatible rural land uses.

Even without the water reductions, small horticultural properties are less able to compete with the larger horticultural properties in Gingin and Myalup, as well as those further from Perth including Carnarvon and Manjimup. Taskforce members expressed a view that a new designated agricultural area in State Forest 65 could be well planned with larger blocks if new water could be sourced. State Forest 65 is Crown Land which has multiple uses and values including environmental, pine production, sand and lime

extraction, and public drinking water source protection for water corporation bores. New agricultural activities would have to meet stringent water management and environmental conditions as well needing industry support and investment.

Addressing the challenges

In response, the North Wanneroo Agriculture and Water taskforce recommends that the State Government considers the following proposals set out in recommendations A – E below. These recommendations have been made by the Taskforce members. There were several non-consensus views which are also set out in Appendix G for the Minister's reference.

Introduction

The North Wanneroo Agriculture and Water Taskforce was established by the McGowan Government delivering on its election commitment to work towards resolving water allocation and land use matters in North Wanneroo.

The Taskforce has prepared these recommendations for the Hon. Alannah McTiernan, MLC, Minister for Agriculture and Food on:

- Evaluation of options for water efficient horticulture given a drying climate and potentially reduced water licences.
- Evaluation of options for recycled waste water to enhance existing and support potential new horticultural areas in North Wanneroo.
- Consideration of a newly planned Carabooda precinct for agriculture and food.
- Advice on best options to enable land and water security to facilitate investment.

The taskforce set out recommendations for water efficient horticulture, impacts of climate change, ways to support new horticultural development, and creating land and water security to facilitate investment as set out in this report.

Members

Ms Sabine Winton MLA	Member for Wanneroo, Chairperson
Mayor Tracey Roberts	City of Wanneroo
Mr Russell Anderson	Poultry, Horticulture, Landholder
Mr Steven Dimitrovich	Mitri Hydroponics, Landholder
Mr Bernie Neaves	Horticulture, Landholder
Mr Darren Shyne	Benara Nurseries
Mr Mark Zagar	Poultry, Landholder
Mr John Shannon	vegetablesWA
Mr Mathew Selby	Department of Planning, Lands and Heritage
Mr Matthew Awang	Department of Water and Environmental Regulation
Dr Melanie Strawbridge	Department of Primary Industries and Regional Development

Taskforce support

Dr Ian Martinus	City of Wanneroo
Mr Daniel Ferguson	Department of Water and Environmental Regulation
Mr Truyen Vo	vegetablesWA
Mr Rohan Prince	Department of Primary Industries and Regional Development
Ms Lisa Chalmers	Department of Primary Industries and Regional Development

North Wanneroo Agriculture and Water Taskforce recommendations

A. Evaluation of options for water efficient horticulture given a drying climate and potentially reduced water licences.

A whole of government approach is needed to help provide North Wanneroo water users with a clear and comprehensive strategy to assist existing groundwater users adapt to reduced or more expensive water availability. Under a drying climate, reduced groundwater availability and rising demand for water, agricultural producers will need support to assess their current business operation and ability to realign production to remain profitable.

The Department of Water and Environmental Regulation is proposing up to 25% (3.3 gigalitres) reduction in water abstraction in the Carabooda, Nowergup and Neerabup subareas of the Wanneroo groundwater area, to adjust to climate change and restore the use of the groundwater resource to a sustainable level to be achieved by 2030. The scale and method for how a reduction in groundwater abstraction is to be achieved is still to be determined by the Government, through the Department of Water and Environmental Regulation's next *Gnangara groundwater allocation plan*. The draft plan is due to be released for public comment in late 2018.

A.1 Assess the capacity of industry to adapt to a reduction in water allocation and remain profitable.

DPIRD and industry urgently:

- a. Audit a representative sample of horticultural water users in North Wanneroo to ground truth the current water use efficiency of the industry and impact of investment to improve water use efficiency.
- b. Facilitate irrigators to undertake business assessments that will help identify opportunities to improve business priorities and profitability and training to improve water use management.
- c. Provide incentive funding for water users that have undergone business assessment and water efficiency training to make improvements of systems or technology that will assist with more efficient water use.
- d. If justified by the audit, implement on-farm trials demonstrating best practice production techniques, including water efficiency technology and soil amendments.

A.2. Ensure that groundwater is being used efficiently and is not being wasted.

On the commencement of the new *Gnangara water allocation plan*, the Department of Water and Environmental Regulation should:

- a. Audit water license holders to check that they are complying with the conditions of their licences.
- b. Investigate the presence of unlicensed draw points for any illegal bores.
- c. Before commencing any water license entitlement reductions for agricultural water users in North Wanneroo, the Department of Water and Environmental Regulation should:
 - i. give agricultural license holders the opportunity to improve irrigation operations and infrastructure.

- ii. ensure that all licensed self-supply groundwater users are metered in the three management areas of Carabooda, Nowergup and Neerabup.
- iii. implement a pilot project to investigate the feasibility of telemetered metering of water abstraction.
- iv. consideration be given for new water licenses or renewal of water licenses, to be tied to demonstrating efficient delivery systems and competency of operations of those systems.
- v. acknowledge licensees' investment in improving water delivery infrastructure by making regional allocation reductions proportional to the level of system delivery efficiency of water users within that region – the lower the efficiency the greater the reduction, the higher the efficiency the lower the reduction, incentivising investment in appropriate delivery efficiency
- vi. Investigate the potential of a rolling average of water use measurement being introduced for licencing allocation as this may create more flexibility in crop cycle decision, fallowing land and timing leading to greater productivity for each water unit used.
- vii. Provide targeted information and support for Vietnamese growers to improve water use efficiency.

B. Advice on best options to enable land and water security to facilitate investment.

The State Government has recognised in *Perth and Peel@3.5million* and the *North West Sub Regional Planning Framework* that with a projected population growth of 3.5 million people by 2050 there is an urgent need to retain land for food production areas on the city's fringe.

North Wanneroo's existing agricultural land is essential for the future of Perth-Peel's food production. This area has been confirmed as rural zoned land by the State Government. Figures 3 and 4 show current State and Local land use zonings.

B.1. Reduce grower uncertainty on groundwater supply.

Scenario, options and recommendations proposed by the North Wanneroo Agriculture Water Taskforce should be considered by the DWER during the preparation for the plan for public comment and as part of finalising the Gngangara Groundwater Allocation plan.

- a. The Department of Water and Environmental Regulation present a clear, detailed and pragmatic pathway before any reductions are made to changes to water licence entitlements. Cuts to agricultural water licence volumes should be minimised until there is a transition option to a new water supply. The pathway needs to include time for growers to prepare for any proposed reductions to water licence volumes and include clear timeframes for any changes to entitlements.
- b. As part of the consultation for the Gngangara Water Allocation Plan, the Department of Water and Environmental Regulation should survey agricultural water users in the North Wanneroo area on the most appropriate way to implement any reductions in water licence entitlements.
- c. The Department of Water and Environmental Regulation undertakes an awareness campaign with licence holders of State-wide Policy 11 *Management of Unused Licensed Water Entitlement*.

B.2. Minimise the scale and impact of water licence changes for agricultural producers.

- a. Review groundwater trading boundaries and rules to ensure they maximise water trading opportunities within North Wanneroo.
- b. DWER to consider if water allocation reduction can be achieved spatially. This could inform whether licence reductions based on existing land use or changes to land use, could achieve the required allocation reductions. For example:
 - i. modelling total allocation of properties on the West of Gibbs Road near the Nowergup wetland.
 - ii. modelling total allocation of properties under two hectares
 - iii. modelling total allocation of properties within the city of Wanneroo landscape enhancement zone.
 - iv. modelling the various scenarios of pine reduction across State Forest 65.

B3. State Government consider an adjustment package for growers

If water allocations are reduced, the State Government could consider an adjustment package for growers. This would enable landholders undertake measures to secure the future of their business through investment in water use efficiency, retirement of debt, or enable them to transition out of production.

a. State government to consider an adjustment package which could include the following measures:

- i.** ex gratia payments;
- ii.** investigation and funding of irrigation schemes to mitigate the cuts;
- iii.** water use efficiency extension activities.

B. 4 Investigate alternate land use within Carabooda, Neerabup and Nowergup.

Decisions made by the State Government in relation to the reductions in water allocations to the existing water licences of growers could have potential consequences for the commercial viability of their operations. Additionally, the State Government's consideration of developing a new agricultural precinct and new water supply will have consequences for the existing North Wanneroo land use.

Once the State Government's position is determined with regards to water supply, it is important that consideration be given to potential future land uses as a consequence.

- a.** A State Government study be instigated which focusses on the landowner's current land uses, the landowner's determination of commercial viability and to assess which landowners are in support of a potential future land use change.
 - i.** If implementation of water licence reductions proposed by Department of Water and Environmental Regulation and considered by the North Wanneroo Water and Agriculture Taskforce progresses; that the Western Australian Planning Commission be requested to complete an investigation study for North Wanneroo where the proposed changes in licenced groundwater supply may render the currently marginal agricultural and horticultural practices economically inviable. This study to focus on the landowner's current land uses, the landowner's determination of commercial viability and assess which landowners are in support of a potential future land use change.
 - ii.** There is a range of Basic Raw Materials available for extraction from this district, and a sequenced and carefully phased approach to any change of land use should be planned to allow resources such as sand and limestone to be recovered as part of any proposed land use change. There are also stands of mature vegetation in key areas that should be considered for preservation as part of any land use change study.

C. Consideration of a newly planned Carabooda precinct for agriculture and food.

The State Government has recognised in *Perth and Peel@3.5million* and the *North West Sub Regional Planning Framework (2018)* that with a projected population growth of 3.5 million people by 2050 there is an urgent need to retain land for food production areas on the city's fringe. The key land use proposals for the sub-region are set out in the framework, however, it does not identify any new rural, or land designated specially for agriculture at North Wanneroo. The framework is not static and there will be an initial review after three years. The taskforce believes that a new agricultural precinct should be reflected in the *North West Sub Regional Planning Framework (2018)*. Without a designated food production precinct by State Government, agricultural producers, and local government, peri-urban growers will continue to battle for land and water supplies and face ongoing right-to-farm issues.

In August 2007, *The Future of East Wanneroo* report recommended a secure agricultural precinct in North Wanneroo consisting of the existing private land rural area in north-east Wanneroo and a new agricultural/horticultural precinct be established in north-east Wanneroo in State Forest 16. A key premise for this report was that there would be a staged relocation of the agricultural/horticultural industry to a new well planned northern agricultural precinct which would provide security for the industry to remain close to the Perth metropolitan area. The plan proposed that there would be an opportunity to investigate the feasibility of a recycled water scheme to provide the growth of the agricultural horticultural industry in north-east Wanneroo with security of water supply and land tenure. It would only become financially attractive for North Wanneroo unless the cost of recycled water was subsidised, the option had a long term guarantee of supply and there was no water supply at lower cost in locations where the same crop can be grown and marketed at similar cost.

A new precinct would be dependent on a new water supply. It is critical therefore that recommendations by this Taskforce in relation to a newly planned precinct and new water supply are considered and actioned together. Section D focusses on recommendations in relation to a new water supply.

The taskforce recommends that a portion of Crown Land State Forest No.65 should be investigated as a site for a new dedicated agricultural land use based on a new scheme water supply. The precinct would focus on securing Perth-Peel Food supply and supplying export markets. A future precinct could be leasehold but buyers would need other security to invest in capital expenditure in the new areas.

State Forest 65 is within the Strategic Assessment of the Perth Peel Region boundary and consideration of any land use changes to a portion of State Forest 65 for agricultural land use will need to plan for Commonwealth and State approvals. The State Government is currently undertaking an independent review of the Strategic Assessment of the Perth and Peel Regions (SAPPR) and its ongoing costs and benefits for Western Australia. The State Forest 65 is Crown Land which has multiple uses and values including environmental, pine production, sand and lime extraction, and public drinking water source protection for water corporation bores. Any new agricultural precinct activities would have to meet stringent water management and environmental conditions as well needing industry support and investment.

- C.1 As a matter of urgency, the Department of Primary Industries and Regional Development make a submission to the SAPPR review to ensure that proper consideration is given to the recommendations to establish a precinct in State Forest 65.**
- C.2 The State Government prepare a high level business case including planning and land assembly pathways for identifying and securing land for a new horticultural area in North Wanneroo that sets out:**
- a. Initial information on the scope, benefits and costs and risks and schedule for an innovative and high value irrigated agriculture/food production precinct at North Wanneroo.
 - b. Consideration of funding models for water supply and land development should be considered.
 - c. The business case would need to be supported by information, including previous studies, on:
 - i. agricultural suitability site conditions, land water, climate and physical constraints.
 - ii. planning land planning, environmental approvals and engineering information (site services, site works traffic, design and management arrangements).
 - iii. Land assembly and governance options including high level tenure options, approval pathways.
- C.3. The State Government create enabling policies and operating environments for a new agricultural precinct.**
- a. Assist existing growers to transform their operations to best practice to improve profitability and productivity.
 - b. Assist in attracting new growers to invest in the dedicated food production area.
 - c. Department of Primary Industries and Regional Development and City of Wanneroo identifying co-operative and co-location opportunities that support low cost energy, value-adding for produce and minimize food waste.
 - d. Supporting training and education opportunities for the agriculture sector.
 - i. Identify drivers and barriers to adoption of protected cropping, including access, costing and economics for supply into domestic and export markets, regulatory burden, production system issues, biosecurity, workforce and capital for investment
 - ii. Provide information for growers looking to transition or invest in protected cropping in Western Australia
 - iii. Department of Primary Industries and Regional Development and planning authorities establish a technical working group to develop specific planning and approvals guidelines for protected cropping, considering potential location of these activities within the Perth-Peel metropolitan area.

D. Evaluate options for recycled wastewater to enhance existing and support potential new horticultural areas in North Wanneroo.

Given the declining groundwater availability, Department of Water and Environmental Regulation has evaluated conceptual water supply options to support the growth of irrigated agriculture in North Wanneroo. The estimated timing for when a new water source is needed is 2022 when water demand exceeds the volume of water available under licenced water entitlements. To identify the options, the study assumed that 3 GL of 'fit for purpose' water, in addition to the sustainable groundwater allocation. The investigation assessed the water source, treatment, storage (including Managed Aquifer Recharge) and distribution aspects of six different water supply options.

More detailed planning for a new water supply will require a clearly defined structure and scale for the future agriculture industry so the supply corresponds to future water demand (volume and quality). For instance, if a new agricultural precinct is to be developed, the optimal location of groundwater recharge/infiltration sites and abstraction bores could be planned and the supply scheme could incorporate water smart technologies.

D.1 Undertake a pre-feasibility assessment of treated wastewater reuse for irrigated agriculture in North Wanneroo.

- a. Refine the water supply design and cost estimates for using treated wastewater from the Alkimos Wastewater Treatment Plant based on stakeholder objectives for a new agri-precinct in North Wanneroo.
- b. Conduct a hydrogeological assessment and groundwater modelling to confirm the technical feasibility of managed aquifer recharge to supply the existing and a new agri-precinct in North Wanneroo.
- c. Undertake assessment of managed aquifer recharge using recycled water in accordance with the Australian Guidelines for Water Recycling: Managing Health and Environmental Risks.
- d. Investigate Lake Nowergup for surface storage of recycled water.

D.2 State Government and Water Corporation enhance the commercial feasibility of a North Wanneroo recycled water scheme.

- a. Plan upgrades to the Alkimos Wastewater Treatment Plant to support future wastewater recycling for irrigated agriculture and other non-potable uses in North Wanneroo.
- b. Develop wastewater access and fee arrangements that would enhance the commercial feasibility of a North Wanneroo recycled water scheme.
- c. Identify potential cost sharing and water service provision arrangements to construct and operate a North Wanneroo recycled water scheme.

D.3 Maintain and enhance the opportunity for long-term alternative water supply options by considering the objectives and requirements for a North Wanneroo recycled water scheme in:

- a. Water Corporation strategic plans related to wastewater recycling and upgrading of the Alkimos Wastewater Treatment Plant.
- b. Department of Water and Environmental Regulation water supply planning, allocation planning and regulatory frameworks consider the development of

- a North Wanneroo recycled water scheme using managed aquifer recharge.
- c. Land use planning by the Department of Planning, Lands and Heritage, City of Wanneroo and developers supports the future supply of wastewater, groundwater (e.g. from East Wanneroo) or stormwater for irrigated agriculture in North Wanneroo.

D.4 State Government and City of Wanneroo undertake further investigation of the City of Wanneroo's preferred alternative water supply options of enhanced rainwater infiltration in State Forest 65 and transfer of groundwater from East Wanneroo.

- a. Enhanced infiltration and groundwater recharge in State Forest 65.
 - i. Department of Water and Environmental Regulation undertake a desktop modelling study on the effect of land use and soil surface treatments on infiltration and groundwater recharge in State Forest 65.
 - ii. Subject to modelling results and approvals, government undertake a field trial of application of enhanced infiltration technologies to increase groundwater recharge in State Forest 65.
- b. Transfer of groundwater from East Wanneroo to the North Wanneroo agricultural area including Managed Aquifer Recharge.
 - i. Consideration for temporarily reducing Water Corporation's groundwater entitlement in East Wanneroo by 3GL to negate the lag phase of urbanisation and excess groundwater recharge.
 - ii. Assessment of capital funding options to reduce water price to growers.

E. Coordination and governance

The Taskforce recommends that there is strong oversight and coordination to deliver the Government's commitments to deliver land and water security for agriculture in North Wanneroo.

The Taskforce recommends that:

E.1. An inter-agency steering committee comprised of government and industry be established, chaired by the Member for Wanneroo and reporting to the Minister for Agriculture and Food.

The Steering Group will:

- a. Undertake extensive consultation with growers and other stakeholders to inform and guide decisions.
- b. Coordinate actions among government and industry.
- c. Provide technical advice and progress updates to the group.
- d. Identify and remove barriers to implementation.
- e. Identify funding and partnership opportunities.

The taskforce is aware that the Commonwealth Government has provided funding for water innovation measures in the eastern states including in the Murray Darling Basin and the Northern Adelaide Irrigation Scheme.

E.2. Develop a strong, sound policy and evidence-based business case for cooperative funding and partnership support from the Commonwealth government to deliver long term land and water security for agriculture in North Wanneroo.

- a. State Government engages the Commonwealth to seek funding for water innovation measures.

Appendix 1

Further individual recommendations proposed by members of the Taskforce for the Minister's consideration.

This table sets out a summary of the recommendations received from Taskforce members throughout the process. The Chairperson's response is provided as part of the *North Wanneroo Agriculture and Water Taskforce recommendations to the Minister for Agriculture and Food* (August 2018).

Stakeholder Recommendations	Chairperson's Response
<p>vegetablesWA</p> <p>VWA1. DPIRD and industry consider an adjustment package (vegetablesWA)</p> <p>Government needs to provide an adjustment package to industry to provide compensation for growers who are losing significant asset value in terms of their license and the underlying asset. An adjustment package would and enable them to implement measure to secure the future of their business through investment in water use efficiency measures, retirement of debt; or enable them to transition out of production.</p> <p>b. An adjustment package An adjustment package should include should include measures such as: ex gratia payments; investigation and funding of irrigation schemes to mitigate the cuts; and water use efficiency extension activities.</p>	<p>Partially supported.</p> <p>Refer to A, B3, D and E</p> <p>Support investigation of irrigation schemes and water use efficiency. It is noted that ex gratia payments would set a precedent are not required under <i>Rights in Water and Irrigation Act 1914</i> for reductions to water licences.</p>
<p>c. Mature market The water trading environment on the North Wanneroo production era is relatively immature compared to the Murray Darling basin. Government should ensure that measures are in place to ensure open and transparent water markets as any cuts are implemented to ensure that adjustment via trading can occur as efficiently as possible.</p>	<p>Partially supported.</p> <p>Refer to B1.</p>
<p>d. Grower Consultation It is vital that government undertakes extensive consultation with growers about not just the entitlement</p>	<p>Supported.</p> <p>Refer to A, B1, and E.</p>

<p>reductions themselves but the components of any adjustment package. This particularly includes considerations around any irrigation scheme proposal or planning.</p>	
<p>Taskforce member 1 - submission on behalf of a number of landholders</p> <p>TM 1. Rezoning of the western area of Nowergup and Carabooda areas to residential use.</p> <p>The western area of Neerabup, Nowergup and Carabooda was identified by WAPC 2007 Future of East Wanneroo as landscape/small lot rural subdivision. This recommendation notes that rezoning would be a solution to the need for a 25% cut to water allocations. This loss of water entitlements would small lot farms unviable. It is proposed that sensible west rezoning to residential use would:</p> <ol style="list-style-type: none"> a. Solve the water crisis by making water available from rezoned unviable lots in the western side, to the larger more economically viable lots on the eastern side. This would not penalise the less viable farmers on the eastern side and would allow the larger farms to grow. b. Current small lot rural subdivision land approximately North of Wattle Avenue to just north of intersection of Wanneroo Road/ Walding Road. c. Create economic stimulus to invest in: viable large economies of scale agriculture, modern efficient technologies and relocate where necessary. d. Maximise ROI of adjacent State infrastructure (freeway, rail etc). e. Rejuvenate drying wetlands, forest, wildlife and environmental assets. f. Create a world class lifestyle, recreation and tourism precinct adjacent to infrastructure adding great value to the State. 	<p>Partly supported.</p> <p>Refer to B2 and B4.</p> <p>Agree that water reductions could make small lots unviable.</p> <p>This recommendation proposes that DWER undertake water modelling as part of the groundwater plan first to determine how much water could be gained from rezoning as shown in Figure 5.</p> <p>Note rural residential and residential land uses would require a water allocation, which may include self-supply bores and public open space irrigation.</p> <p>The Chair supports consideration be given to future land uses as previously contemplated in the <i>Future of East Wanneroo 2007</i> recommendation 6.4. The intent of this previous work was to acknowledge this area as having special features. The area between Flynn Drive and Wattle Venue could support agricultural tourism including a scenic drive. Implementation would fit in with City of Wanneroo's aspirations for economic diversity.</p> <p>Currently, the state land use planning policies (State Planning Policy 2.5 <i>Rural Planning</i> and North - East Corridor Framework) do not supported any more rural residential subdivisions to prevent the loss of urban agricultural areas. The area is currently zoned rural.</p>
<p>TM 2. Create a future agriculture District in State Forest 65 with a new recycled water source.</p>	<p>Supported.</p> <p>Refer to C, D and E.</p>

<p>a. Create a future Agriculture District (State Forest 65) with giant economies of scale which could afford modern technology, export product and afford the cost of recycled water estimated \$0.70/KL.</p>	<p>The issues raised will need to be addressed by the implementation group.</p>
<p>Taskforce member 2 - submission on behalf of a number of landholders</p> <p>TW3.</p> <p>a. Not to accept the water cuts of 25% over Carrabooda, Nowergup and Neerabup as the whole community is impacting on groundwater including private bores, sports grounds, industry and major supply extraction by Water Corporation.</p> <p>b. 25% water allocation cut is 25% cut to income and 25% reduction in land values.</p> <p>c. Government needs to clearly make a decision on the importance of horticulture in the area.</p> <p>d. Government assistance to provide recycled water to the area but not at the current scenario estimates 0.70/KL is not viable.</p> <p>e. Government support if want growers to provide horticultural produce on the outskirts of Perth city.</p> <p>f. Reductions of water allocation gives no security of water supply – so subdivide for urban or relocate to more secure agricultural areas.</p>	<p>Partially supported.</p> <p>Refer to B and D.</p> <p>The DWER Plan will identify that all water users are likely to have reduced water allocations.</p> <p>A 25% cut is a significant cut to agricultural businesses and the value of land.</p> <p>Refer to C and D for determining alternative water supply feasibility and future precinct feasibility at North Wanneroo.</p>
<p>Taskforce member 3 - submission on behalf of a number of landholders</p> <p>TM4. Investigate alternative land use within Carabooda-Nowergup precinct</p> <p>a. As the implementation of water licence reductions proposed by DWER and considered by the North Wanneroo Water and Agriculture Taskforce progresses; that the WAPC be requested to complete an investigation study for land south of Carabooda Road and north of</p>	<p>Partly supported.</p> <p>Refer to B4.</p>

<p>Nowergup Road/Wesco Road; where the proposed changes in licenced groundwater supply will render the currently marginal agricultural and horticultural practices economically inviable. This study to focus on the landowner's current land uses, the landowner's determination of commercial viability and assess which landowners are in support of a potential future land use change.</p> <p>b. There is a range of Basic Raw Materials available for recovery from this district, and a sequenced and carefully phased approach to any change of land use should be planned to allow resources such as sand and limestone to be recovered as part of any proposed land use change. There are also stands of mature vegetation in key areas that should be considered for preservation as part of any land use change study.</p> <p>c. The City of Wanneroo be advised that land owners need to be consulted prior to any land use change, that the Priority Agriculture Land use is not being considered in light of the imminent reduction in groundwater licences. There is a requirement, as the water licence reductions continue, to complete a study on the potential for alternative land zoning. The land use study should consider how to create an education precinct, with university and technical colleges, designated to create a research centre and educational centre of excellence to support the future major dedicated agricultural precinct proposed to the north; including outcomes of a review of State Forest 65.</p> <p>d. The current range of major urban infrastructure facilities in close proximity be taken in account as part of the land use study, including:</p> <ul style="list-style-type: none"> • power supply proximity, • water tank assets and potable water supply availability, 	
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<ul style="list-style-type: none"> • proximity to a major waste water treatment plant, • linkages to Wanneroo Road and the Mitchell Freeway, • potential future rail corridor to support Metronet objectives for long term planning and operational efficiency. <p>e. That the City of Wanneroo be advised that as part of its planning review studies in preparation for submissions on the State Planning Frameworks in approx. 3 years' time, the City should utilise the results of landowner's surveys to prepare and lodge a submission supporting any proposed land use change in line with the overall responses from landowners in this district.</p>	
<p>City of Wanneroo</p> <p>The City of Wanneroo ('the City') considers that resolving water and land security issues are the most critical matters for the industry and has identified a number of priority focus areas as outlined below. These positions are not a formal position by the City of Wanneroo.</p> <p>Preferred Water Security Measures</p> <p>CoW1. Enhanced Infiltration and Groundwater Recharge in State Forest 65 (former pine plantation).</p> <p><i>This has the potential to supply in excess of 3GL to local groundwater and negate the need for an external source of water.</i></p> <ul style="list-style-type: none"> a. Desktop modelling study by DWER on the effect of land use and soil surface treatments on infiltration and groundwater recharge in State Forest 65. <ul style="list-style-type: none"> i. DWER to scope and price. b. Field Trial – application of enhanced infiltration technologies to increase groundwater recharge in State Forest 65. 	<p>Partly supported.</p> <p>Refer to D4.</p> <p>There are multiple considerations for the State Government to consider with the future management of State Forest 65 and clearing of the pines.</p> <p>The draft Strategic Assessment of the Perth Peel Region which includes the area of State Forest 65 is currently under review. In 2018, the Premier approved an independent review of the Strategic Assessment of the Perth and Peel Regions (SAPPR) and its ongoing costs and benefits for Western Australia. State Forest 65 is one of the areas included under the SAPPR.</p> <p>Further information would be required from CoW to DWER.</p>

<p>CoW 2. Transfer of groundwater from East Wanneroo to North Wanneroo Agriculture Area</p> <p>CoW is keen to further investigate the pre-feasibility of Option 4 of Water Options Study (Supply of groundwater from East Wanneroo via MAR), including;</p> <ul style="list-style-type: none"> a. Advocacy to temporarily reduce Water Corporation’s groundwater entitlement in East Wanneroo by 3GL to negate the lag phase of urbanisation and excess groundwater production; and b. Assessment of capital funding options to reduce water price to growers. 	<p>Partly Supported.</p> <p>Refer to D4.</p>
<p>CoW 3. Align groundwater with Priority Agricultural Land (Short term water supply)</p> <ul style="list-style-type: none"> a. Align groundwater with Priority Agricultural Land (PAL) (to be identified in the City's proposed zone changes and state government’s MRS and North West Sub-Regional Planning Framework) as it would encourage the retention of agriculture in PAL areas and encourage transitions to other complementary land uses in other areas. 	<p>Partly supported.</p> <p>Refer to B2.</p>
<p>CoW4. Priority Agricultural Land</p> <p>Pressures for large-scale change of use, including from rural to urban, are addressed at the regional and sub-regional planning levels. If steps are to be taken to provide land security and enable those pressures to be resisted, they need to involve the relevant regional and sub-regional planning instruments rather than just at the local government level.</p> <ul style="list-style-type: none"> a. Urgently identify Priority Agricultural Land (PAL) in the North Wanneroo area as required under State Planning Policy 2.5: Rural Planning, b. PAL should also be designated at the regional and sub-regional level, particularly through the Metropolitan Region Scheme (MRS) and North-West Sub-Regional Planning Framework (when it is subject to its proposed 3-yearly review). 	<p>Partially supported</p> <p>This is consistent with a range of State Planning documents.</p>

<ul style="list-style-type: none"> c. Finalise City's Agri-precinct Concept Plan and Vision (in progress). d. Advocating for this change through the "Modernising Western Australia's Planning System" Green Paper and White Paper. 	
<p>CoW5. A strong planning framework at both state and local level.</p> <p>The City of Wanneroo is currently developing a Local Planning Strategy. A planning strategy is the key document before endorsement of a local planning scheme to describe what can be done rather than tacitly imply what can't be done. The City's Local Planning Scheme (LPS2) is also currently being updated. The current rural zones could be reviewed and updated to reflect the vision for Northern Wanneroo agriculture area and, if deemed necessary, a scheme amendment initiated.</p> <ul style="list-style-type: none"> a. Develop Local Planning Strategy (in progress). b. Update Local Planning Scheme 2 (in progress), including initiation of a scheme amendment to update rural zones. c. Commence a detailed planning study for the proposed 'urban interface' or landscape enhancement / agritourism zone, with attention to: <ul style="list-style-type: none"> • Landscape and heritage land use protection and guidelines • Identification of appropriate supplementary and complementary land uses over the long term • Protection and enhancement activities for long-term urban/agriculture interface zone, including consideration of agritourism, vegetation retention and signage guidelines 	<p>Partially supported.</p> <p>Refer to B4.</p>
<p>CoW6. Support for agriculture to adapt to a new reduced groundwater scenario</p> <ul style="list-style-type: none"> a. Investigate the implementation of a water recovery / buy-back compensation scheme. b. Trials and Demonstration – use of irrigation technology and improved 	<p>Partly supported.</p> <p>Refer to A and B1.</p> <p>The water recovery scheme would set a precedent and there are already recouping mechanisms administered by DWER.</p>

<p>agriculture practices on water use efficiency.</p> <ul style="list-style-type: none"> c. Benchmarking Program (potentially in partnership with Perth NRM and DPIRD under a Smart Farms Grant), including Workshops and Field Days. d. Establish a multiyear outreach and extension program such as 'More Dollars Per Drop', to increase water use efficiency and technical & business innovation support/advice to industry operators. <ul style="list-style-type: none"> i. Approximate project cost to be provided by DPIRD as lead agency. e. Soil amendment trial and demonstration to establish the benefits of soil amendment to operator efficiency, profitability and water use efficiency. <ul style="list-style-type: none"> i. Approximate project cost to be provided by DPIRD as lead agency. f. Establish a "Wanneroo New Industries Fund" (NIF) based on the current Regional New Industries Fund (RNIF): <ul style="list-style-type: none"> i. Allocation of a significant implementation fund (for example, \$1million/year for an initial 5-year period). ii. Aimed at transformational innovation and investment iii. Meet 4 pillars and 5 prime objectives of the current RNIF guidelines. 	<p>Additional support from CoW would be welcome.</p>
<p>CoW 7. Investment Attraction Package</p> <ul style="list-style-type: none"> a. Development of an Investment Attraction Package for the North Wanneroo agriculture region b. Establish a Steering Committee for the purpose of investigating the re-designation of State Forest 65 to land uses aligned with and supporting agriculture and water recharge objectives c. Cost Benefit Analysis and economic modelling of the opportunity cost of retaining pines over investing in water supply recharge for horticulture. 	<p>Partially supported.</p> <p>Refer to D and E.</p>
<p>CoW 8. Business Development and Capacity Building</p>	<p>Partially supported.</p>

<p>There is a need for business strategy and practice improvements in order to achieve business development and capacity building outcomes.</p> <p>a. Business Development Workshop Series (Innovation, Investment, Business Strategy, Tourism and Marketing, Entrepreneurship).</p>	<p>Refer to E.</p> <p>Although this is outside the scope of this taskforce, this proposal will complement the Taskforce’s recommendations. This proposal could be lead by City of Wanneroo.</p>
<p>CoW 9: Research and Development</p> <p>Employment in the area would be substantially increased with the establishment of a Research and Development hub or Cooperative Research Centre (CRC) aligned with agri-business activities of the area. Any investment in innovation and technology focused on water use efficiency would be highly beneficial to the State.</p> <p>Given Wanneroo’s existing expertise in specific areas like nurseries and greenhouses and proximity to research institutions, there is potential for Wanneroo to trial the use of precision and emerging technologies. There is an opportunity to position the City as a location for piloting a broad range of technologies and become a ‘test bed’ for emerging technology within the State.</p> <p>a. Development of a Business Case for a Food Hub & Business Incubator (including Processing Facility & Test Kitchen).</p> <p>b. Investigate opportunities for agricultural research and development infrastructure in Northern Wanneroo (for example a water efficient horticulture CRC).</p>	<p>Partially supported.</p> <p>Refer to E.</p> <p>Although this is outside the scope of this taskforce, this proposal will complement the Taskforce’s recommendations. This proposal could be lead by City of Wanneroo.</p>
<p>CoW 10. Development of a Regional Food Brand</p> <p>There is a need to develop a strong regional food brand to promote produce locally and internationally. A regional brand should be developed in conjunction with clear market positioning and an activation plan to progressively deliver an experience which equals the Swan or Barossa Valley in terms of food brand and recognition. Collaborative opportunities include:</p>	<p>Partially supported.</p> <p>Refer to E.</p> <p>Although this is outside the scope of this taskforce, this proposal will complement the Taskforce’s recommendations. This proposal could be lead by City of Wanneroo.</p>

<ul style="list-style-type: none"> • Partnering with the Wheatbelt Development Commission and Northern Growth Alliance (Shire's of Chittering, Gingin and Dandaragan). • Partnering with Perth NRM and Food Futures to develop a Northern Perth Food Bowl, including initiating/establishing a Multi-Stakeholder Platform (MSP) and Thematic Working Groups (TWG). <p>a. Develop a Regional Food Brand in collaboration with above partners.</p> <p>b. Develop a Northern Perth Food Bowl in collaboration with above partners.</p>	
<p>CoW 11. Regional Infrastructure</p> <p>It is important to connect Northern Wanneroo agriculture area with wider regional freight network and agricultural precincts and leverage proximity to the metropolitan population.</p> <ul style="list-style-type: none"> a. Freight route upgrade between Neerabup and Muchea required (Neaves Road upgrade and realignment to Flynn Drive). b. Investigate further freight transport route links to adjacent regions to improve supply chain and logistics 	<p>Supported.</p> <p>Refer to E.</p> <p>Although this is outside the scope of this taskforce, this proposal will complement the Taskforce's recommendations. This proposal could be lead by City of Wanneroo.</p>
<p>CoW 12. Export Development Program</p> <p>There is an opportunity to establish North Wanneroo as a high value food exporter for Asian markets and become the "dinner plate for Asia" through strong promotion and branding. To achieve this objective, rapid export transport for high value, 'perishable' food products is important.</p> <p>a. Export Development Program linked to the Northern Perth Food Zone</p>	<p>Supported.</p> <p>Refer to E.</p> <p>Although this is outside the scope of this taskforce, this proposal will complement the Taskforce's recommendations. This proposal could be lead by City of Wanneroo and DPIRD - WA Open for Business http://www.waopenforbusiness.wa.gov.au/</p>
<p>CoW 13. Other Long Term Strategic and Economic Development Items</p> <p>It is important to consider the role of strategic economic infrastructure on the agriculture industry and local economy. There is an opportunity to develop state and nationally significant infrastructure in the region;</p>	<p>Supported.</p> <p>Refer to E.</p> <p>Although this is outside the scope of this taskforce, this proposal will complement the Taskforce's recommendations.</p>

<ul style="list-style-type: none">a. Investigation of drone corridors for rapid transport of high value agricultural productsb. Long term planning - investigate feasibility of a second Perth Airport in the regionc. Long term planning - investigate feasibility of the development of a Port in the region to serve as a complementary facility to Fremantle	<p>This proposal could be lead by City of Wanneroo.</p>
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Appendix 2 – Figures for the North Wanneroo Water and Agriculture Taskforce recommendations

Figure 1: North Wanneroo agricultural land study area

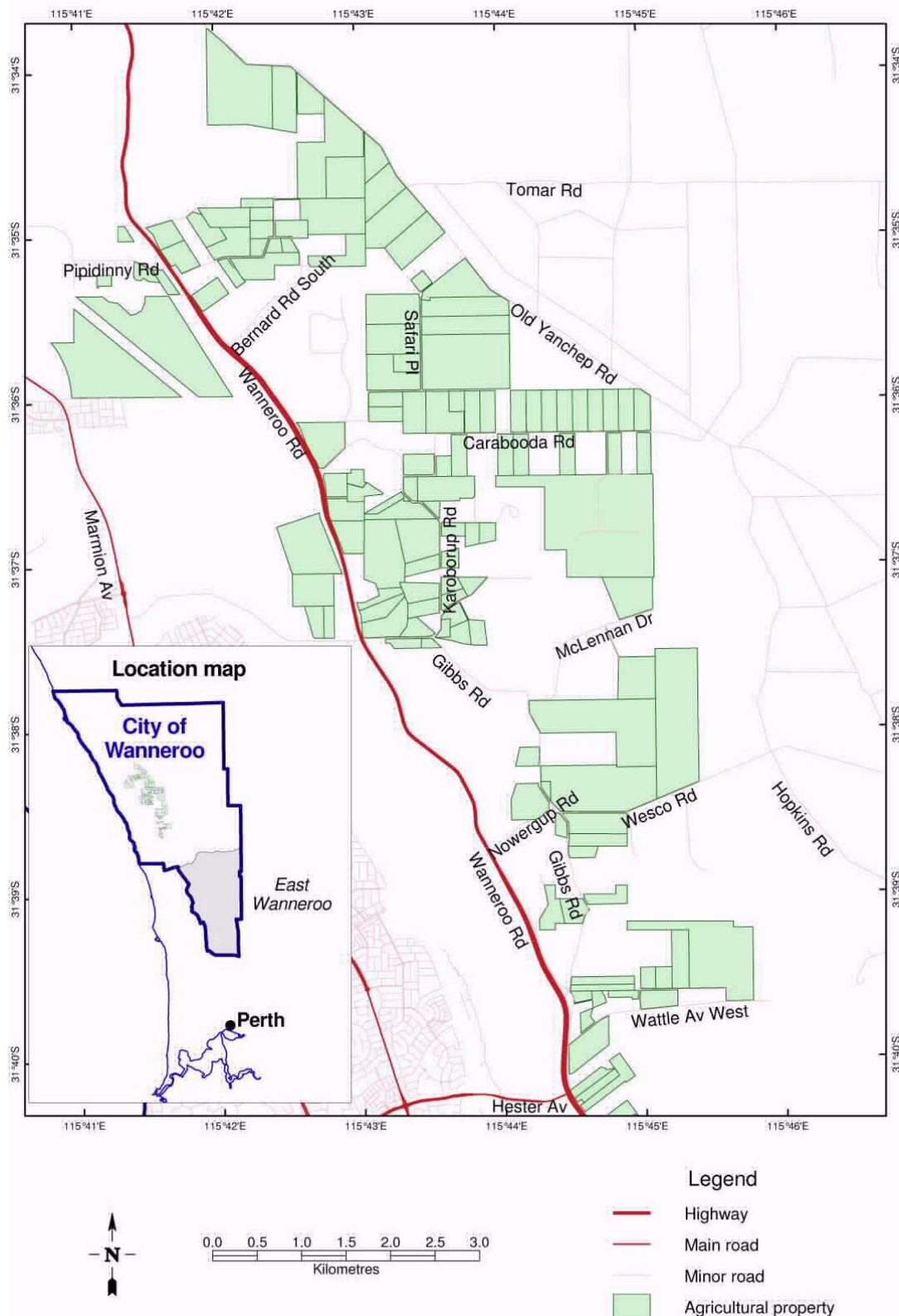


Figure 2: North Wanneroo intensive agriculture land use categories

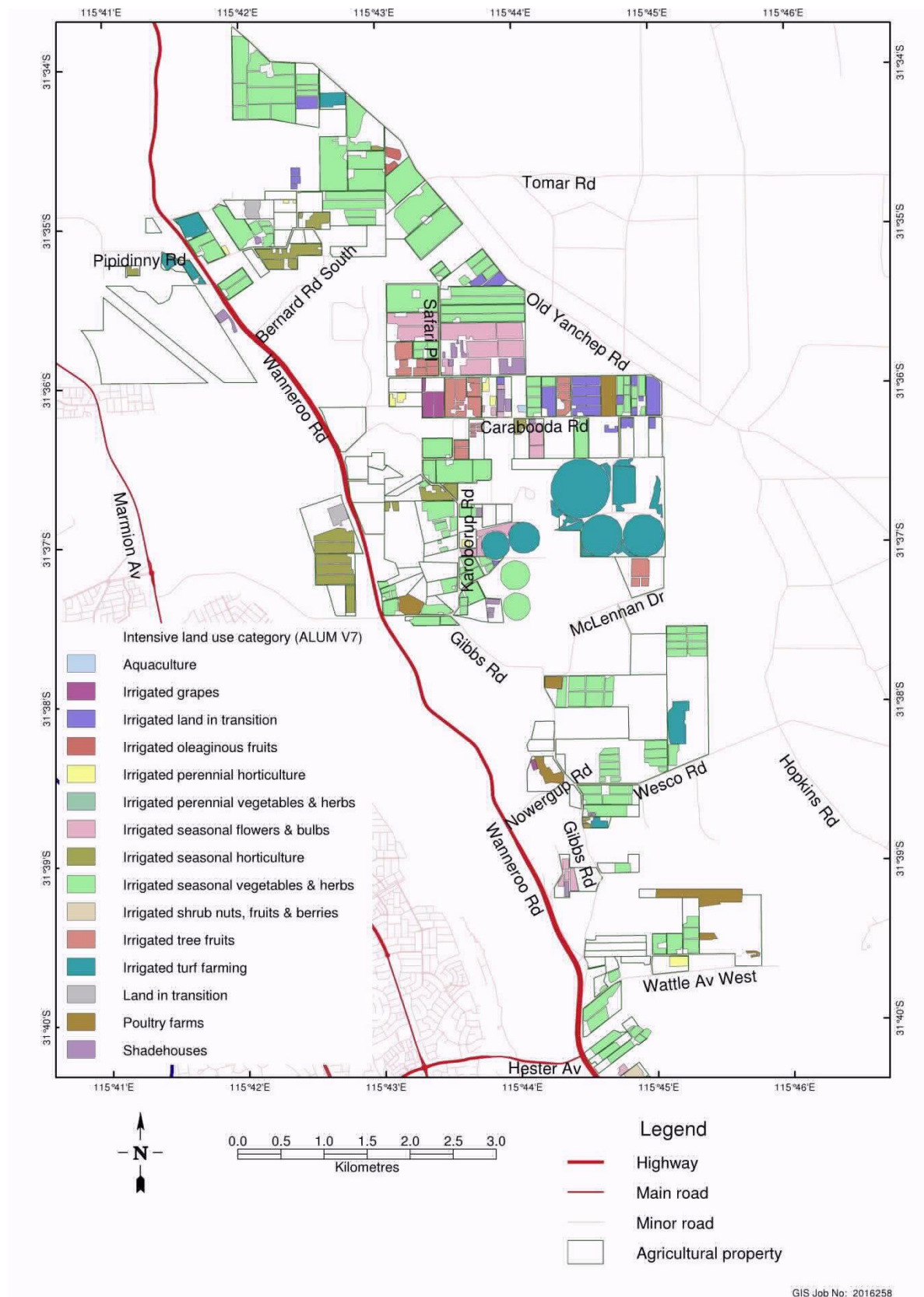


Figure 3: City of Wanneroo Metropolitan Region Scheme

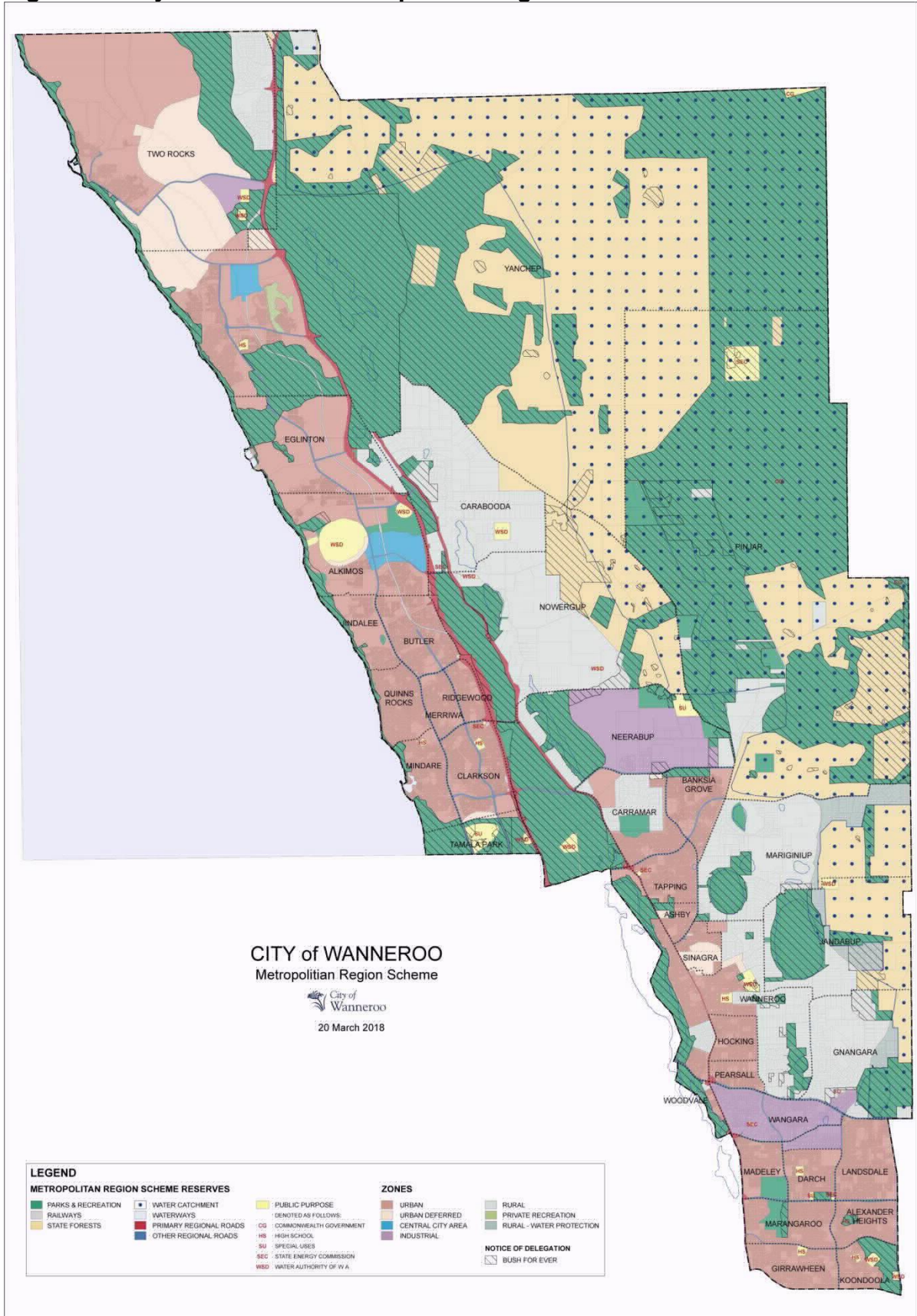


Figure 4: City of Wanneroo District Planning Scheme No 2 (8 May 2018)

