# Waterwise Council Action Plan

City of Rockingham
2021

The Waterwise Council Program supports the State Government's vision to create a Waterwise Perth and waterwise communities, recognising that:

*A waterwise Perth is cool, liveable, green and sustainable, a place where people want to live, work and spend their time. It is a city where communities care about and value water, while making best use of its various sources (groundwater, surface water, stormwater, seawater and wastewater).*

*The city serves as a catchment and provides healthy natural environments, supporting a range of social, ecological and economic benefits.*

# Introduction

It has been over 10 years since the Waterwise Council Program was launched by Water Corporation and the Department of Water and Environmental Regulation. The Program was developed to build a cooperative working relationship with local governments to improve water use efficiency in local governments and their communities.

Since the development of the first Water Efficiency Action Plan in 2016, Waterwise Councils have achieved a number of amazing and innovative initiatives to reduce water usage and strive towards developing waterwise communities.

## Criteria to become a Waterwise Council

The Waterwise Council (WWC) Program is free to all local government authorities (LGAs) in Western Australia to join. To be endorsed as a Waterwise Council, a local government must fulfil the following steps:

**Criteria 1:** Sign a Memorandum of Understanding to participate in the Waterwise Council Program.

**Criteria 2:** Review water consumption and create a Waterwise Council Action Plan for potable and non-potable water sources for all local government operations and the community.

**Criteria 3:** Ensure appropriate staff complete online waterwise training at https://www.watercorporation.com.au/Help-and-advice/Business-customers

**Criteria 4:** Progress towards full compliance with groundwater licence conditions including metering regulations and no infringements of water usage issued in the past 12 months.

**Criteria 5:** Report annually to retain endorsement (optional recognition scheme)

### Objectives

The objectives of the Waterwise Council Action Plan are to:

- Assess current water management activities across council operations and the community;
- Identify opportunities to save water;
- Set goals to improve water management outcomes;
- Prepare an action plan and implement water actions to progress towards your targets;
- Provide a process for annual reporting on implementation of water actions;
- Work towards creating waterwise communities beyond water efficiency (recognition scheme)

This plan will be valid for a period of **5 years** and forms the basis of annual reporting requirements.

### Methodology

- Waterwise journey
- Water use inventory
- Develop water goals and targets
- Table of endorsement actions
- Recognition Scheme

## Contact Details

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## Water Management Team

| Name | Position/Department | Email | Completed online training? Yes/No |
|---|---|---|---|
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| VACANT | Irrigation Supervisor | | No |

# City of Rockingham Waterwise Journey

## Waterwise Council Milestones

| Milestone | Reporting Year |
|---|---|
| **Endorsement** | *2017* |
| **Gold** | *2019* |
| **Platinum (Council of the Year)** | *N/A* |
| **10 Year Waterwise Council** | *N/A* |

## Main Strategic Documents

The City's relevant water related strategies, linked in Table 1, outline the key measures undertaken to maintain status as a Waterwise Council.

**Table 1: Summary of related strategic documents**

| Main Strategic Document | Link | Notes |
|---|---|---|
| Sustainability Strategy 2020 | https://rockingham.wa.gov.au/forms-and-publications/your-city/our-vision/sustainability-strategy | The Sustainability Strategy is the City's main strategic document for setting out directions, priorities and actions to be implemented over a five-year period, according to five key focus areas, which includes water use efficiency. |
| Water Efficiency Action Plan 2016 (WEAP) | https://rockingham.wa.gov.au/forms-and-publications/your-city/protecting-our-environment/water-efficiency-action-plan-2016 | To be superseded by this Water Efficiency Action Plan (2021). |
| **Related Strategic Document** | **Link** | **Notes** |
| Verge Development guidelines | https://rockingham.wa.gov.au/forms-and-publications/your-services/services-in-your-street/verge-development-guidelines | Verge Policy was endorsed in 2019, along with Verge Development guidelines.<br>Verge Program in place since 2017.<br>The policy encourages the use of Waterwise native species to reduce irrigation on street verges, in addition to promoting the environmental benefits of a Waterwise verge. |
| Planning Policy 3.4.3 – Urban Water Management | https://rockingham.wa.gov.au/forms-and-publications/planning-and-building/policies-and-procedures/planning-policy-3-4-3-urban-water-management | The Policy articulates the City's position on the planning, design and construction of Urban Water Management proposals and is to be considered by applicants, and City Officers in the design, assessment and determination of all planning applications. |
| City Greening Plan 2017 | https://rockingham.wa.gov.au/forms-and-publications/your-city/our-vision/greening-plan-2017 | A framework created for the establishment of a resilient, diverse and expanding urban forest through greening public open space and streetscapes. |
| Wetland Management Plan 2018 | https://rockingham.wa.gov.au/forms-and-publications/your- | The Wetland Management Plan focuses on 10 City wetland reserves, with directions on |

| | | |
|---|---|---|
| | city/protecting-our-environment/wetland-management-plan | the management and ongoing use of these reserves over the next five years. |
| Lake Richmond Management Plan 2020 | https://rockingham.wa.gov.au/forms-and-publications/your-city/protecting-our-environment/lake-richmond-management-plan | The Lake Richmond Management Plan outlines directions for the protection and enhancement of conservation and recreation values within the Lake Richmond reserve over the next five years, including actions for the management of threating processes such as water quality impacts. |
| Public Open Space Community Plan Strategy | https://rockingham.wa.gov.au/forms-and-publications/your-city/our-vision/public-open-space-strategy | The City of Rockingham Public Open Space Community Plan Strategy was completed in 2020 to guide the planning, development and management of Public Open Space within the City, to ensure it best meets the needs of the community and balances competing demands for space. Key actions within this strategy relate to the inclusion of Water Sensitive Urban Design (WSUD) principles, adapting to a changing climate and alternative irrigation methods for future POS reserves. |
| Strategic Asset Management Plan 2021 | https://rockingham.wa.gov.au/forms-and-publications/your-city/our-vision/strategic-asset-management-plan | Protection of key water related assets are outlined in this plan (i.e. parks and open spaces, stormwater drainage assets). |

## Waterwise Achievements

**City of Rockingham achievements include:**

- Endorsed as a Waterwise Council in 2017, after the release of the City's Water Efficiency Action Plan (2016). Endorsed as a Gold Waterwise Council in 2019 and 2020.
- Endorsement of Aqua Jetty (2016) and Rockingham Aquatic Centre (2020) as Waterwise Aquatic Centres.
- Awarded Waterwise Greening Scheme funding in May 2020 to deliver 11,000 plants across the City's reserves.
- Ongoing annual Native Plants Giveaway held to promote the establishment of Waterwise gardens within the community.
- Improvement of water quality and increased canopy cover, with 13,239 trees planted since 2017, in accordance with the City's Greening Plan 2017.
- Investigations into a Managed Aquifer Recharge Scheme for the City are still progressing. Managed Aquifer Recharge involves storm/waste-water being injected into aquifers during the wet season via an injection well. This otherwise wasted water can then be drawn from for irrigation during drier seasons; helping reduce the chance of water supply shortages. Once investigations are finalised, key benefits of this scheme include: replenishing aquifers, improved water supply security and the creation a water supply without any evaporation loss. Most recently, an investigation test bore was drilled in a Public Open Space reserve, in accordance with recommendations from a feasibility study undertaken in 2018. It is expected preliminary findings of the hydrological investigations will be finalised at the end of 2021.
- Completion of *Planning Policy 3.4.3 – Urban Water Management* in 2018, to incorporate water sensitive urban design (WSUD) principles into planning and development within the City.
- The construction of 26 new Public Open Space reserves with WSUD principles since 2015/2016; each being used to improve the quality of stormwater runoff.
- The successful trial of several roadside rain gardens in 2019/2020 within the City, has led to the installation of a further two rain gardens in 2020/2021. These rain gardens are used to capture nutrients and hydrocarbons from stormwater runoff.
- Adoption of Verge Development Policy and Guidelines in 2019, resulting in the installation of low water using verges.
- Installation of weather stations at top non-potable water consumption site, Larkhill Sporting Complex, to reduce consumption and improve irrigation efficiency.
- Ongoing engagement with local schools through promotion of the Waterwise School Program.
- Implementation of the *Community Plan Strategy – Natural Area Conservation 2017* by preparing Environmental Management Plans for City managed reserves, such as: Lake Richmond Management Plan (2020) and Wetland Management Plan (2018). Held Waterwise Gardening seminar in April 2018 to promote Waterwise gardening techniques to City residents.

## Water Use Inventory

The Corporate and Community water use inventory's identify priority areas for action and assist the City in tracking water consumption over time.

### Corporate water consumption

The City's corporate water consumption is inclusive of water usage data from both scheme and groundwater. Potable scheme water data is provided by Water Corporation and groundwater data has been gathered from City records. A summary of corporate total water consumption over time has been provided in Table 2.

Overall Corporate Water Consumption

Total (potable and non-potable) water consumption has steadily increased over the last five financial years (2016 / 2017 until 2020 / 2021); as shown in Figure 1. With a 7.4% increase in population since 2016, overall water consumption demand continues to grow alongside population growth as additional corporate consumption is required to cater to the needs of a growing community. A challenge for the City is meeting this demand for additional water consumption. Between 2019/2020 and 2020/2021, a slight decrease of 2% occurred which can be associated with the reduction of both potable and non-potable water sources. This decrease is likely the result of seasonal changes for irrigation and a significant leak repair at the City's top potable water consuming site.

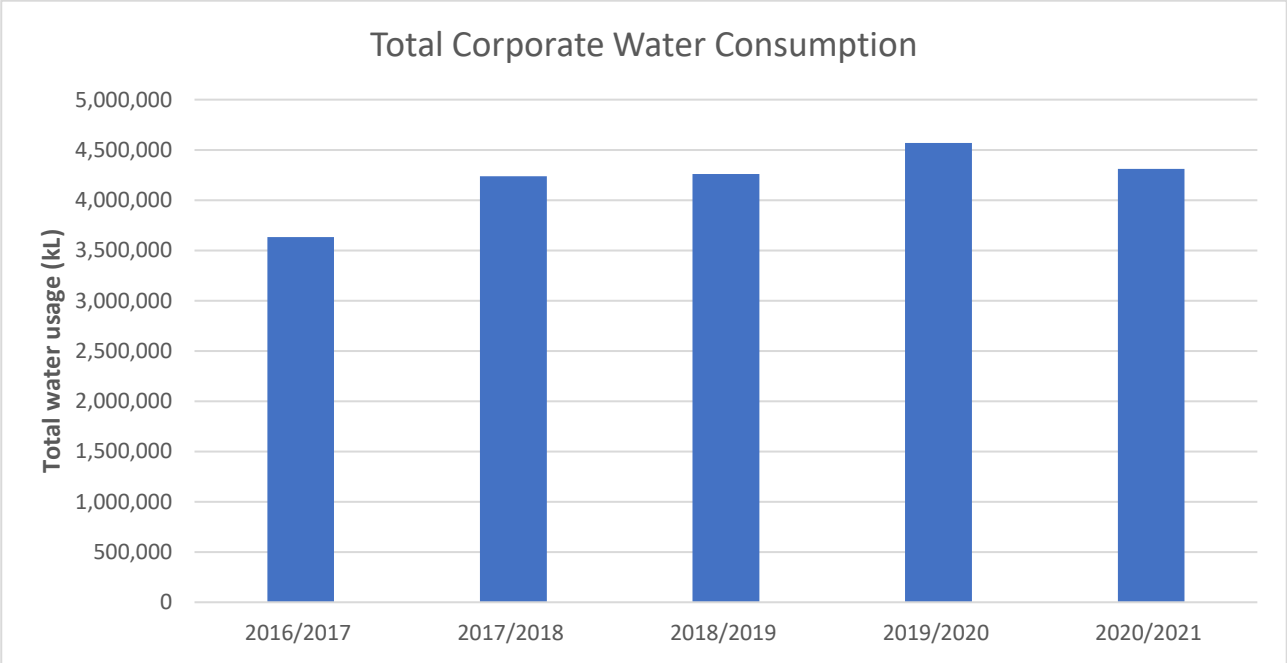


**Figure 1.** Total Corporate Water Consumption (includes potable and non-potable water consumption).

Potable Water Consumption

On average, potable water consumption was increasing between 2016 and 2020. Across all City operations, a significant reduction of 23.9% occurred as a result of a major leak being repaired at the Rockingham Beach Reserve – Churchill Park in 2019/2020. This detected leak has resulted in an 86% reduction in water usage at the facility, a decrease of 20550kL. Decreases in potable water consumption in 2020/2021 are linked to significant reductions at the City's top 5 water consuming sites.

Non-potable Water Consumption

Non-potable water usage from approved groundwater licenses has increased by 19.4% over the last five years. Since 2016, the City has seen increased urban development and ultimately more irrigated areas to manage. Changes in groundwater usage are reflective of the increase in managed areas and seasonal changes to maintain these public open spaces.

Non-potable alternative water sources are not reported on by the City and therefore are not applicable to the total water consumption of the City.

**Table 2: Summary of corporate total water consumption overtime from potable and non-potable water sources**

| Water source | 2016/2017 (kL) | 2017/2018 (kL) | 2018/2019 (kL) | 2019/2020 (kL) | 2020/2021 (kL) |
|---|---|---|---|---|---|
| Potable water | 107,021 | 103,092 | 110,244 | 119,803 | 91,134 |
| Non-potable, licensed groundwater | 3,525,669 | 4,134,264 | 4,151,093 | 4,450,782 | 4,210,480 |
| Non-potable alternate water source (Recycled water/stormwater etc.) | n/a | n/a | n/a | n/a | n/a |
| **Total water consumption** | **3,632,690** | **4,237,356** | **4,261,337** | **4,570,585** | **4,301,614** |

High Consumption Facilities

The Top five potable and top five non-potable water consuming assets for the last two financial years are displayed in Table 3. Top water consumers for each financial year have been underlined.

A major variation to the top 5 potable water assets is the removal of Rockingham Beach Reserve – Churchill Park. This site has been one of the City's top water consuming sites for many years, however, significant decreases in consumption have resulted from the detection of a prolonged leak and the completion of construction works at the site. Asides from the Aqua Jetty, Crocker Street Depot and Warnbro Community Recreation Centre, all other assets have seen reduction in water usage.

Larkhill Sporting Complex still remains the City's top non-potable water consuming asset. However, this site continues to reduce its water consumption over time, with a 12.7% decrease since 2016. This can be attributed to ongoing improvements in irrigation efficiency at this site, including the previous installation of weather stations.

Variation of water consumption over time has resulted in the change in top sites from the City's 2016 Water Efficiency Action Plan. Continual improvements in metering and irrigation systems will seek to reduce non-potable water consumption around the City.

The City continues to internally review the top five water consuming sites annually against set performance benchmarks from the Water Efficiency Action Plan 2016.

**Table 3: Top 5 potable and top 5 non-potable water consuming assets**

| Account # | Common name | Water use source | 2019/2020 (kL) | 2020/2021 (kL) | Notes* |
|---|---|---|---|---|---|
| **Top 5 potable sites** | | | | | |
| *9000080347* | *Aqua Jetty* | *Swimming Pool and* | *15,682* | ***20,873*** | Lower patronage in 2019/2020 was a result of COVID-19 lockdowns. Indoor and outdoor |

| | | | | | |
|---|---|---|---|---|---|
| | | *Indoor Gymnasium* | | | pools were closed for refurbishment from March 2020 through to September 2020. |
| *9000134384* | *Rockingham Aquatic Centre* | *Swimming Pool* | *16,342* | ***9,642*** | Fewer patrons between the past two financial years a result of COVID-19 restrictions. |
| *9000285502* | *Crocker Street Depot* | *Depot* | *7,118* | ***7,241*** | |
| *9000259531* | *Point Peron Boat Ramp* | *Club* | *8,997* | ***5,941*** | It is important to note that a benchmark indicator for Point Peron Boat Ramp is not applicable due to the variety of different water uses on the site. The boat ramp includes wash down facilities, a public function centre, a public toilet and a fish cleaning station. |
| *9000083062* | *Warnbro Community Recreation Centre* | *Centre* | *1,559* | ***3,791*** | There was a significant leak at site which has been repaired. Leak allowance lodged to Water Corporation. |
| *9000274651* | *Rockingham Beach Reserve – Churchill Park* | *Reserve* | ***23,826*** | *3,276* | For the first time, Churchill Park has been removed from the top 5 potable sites. Multiple factors have contributed to the significant decrease in the water consumption. Finishing of construction works and the identification and repair of a major leak are both contributing factors. |
| **Top 5 non-potable sites** | | | | | |
| *GWL 169175* | *Larkhill Sporting Complex – Aertesian Bore* | *Groundwater* | ***135,122*** | ***126,019*** | Decrease is due to seasonal variations in usage. |
| *GWL 154214* | Barri Barri Reserve (2) | *Groundwater* | 18,300 | **93,348** | Faulty meter in 2019 has been replaced. The 2019 / 2020 reading is inaccurate and does not reflect the true groundwater consumption at the reserve. |
| *GWL 65106* | *Anniversary Park Volume 1 and 2* | *Groundwater* | ***60,000*** | ***75,397*** | Increase is due to seasonal variations in usage. |
| *GWL 154214* | *Bonnington Reserve* | *Groundwater* | *22,856* | ***72,151*** | Faulty meter in 2019 has been replaced. The 2019 / 2020 reading is inaccurate and does not reflect the true groundwater consumption at the reserve. |
| *GWL 158268 (4)* | *Chesapeake Park (Lark Hill Fill)* | *Groundwater* | ***60,309*** | ***69,539*** | Increase is due to seasonal variations in usage. |
| *GWL 154214 (4)* | *Rivergums – Tramway Reserve* | *Groundwater* | ***116,476*** | *34,475* | The bore fills a nearby artificial lake. Significant works were required on the lake to repair |

| | | | | | |
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| | | | | | leaks and remove accumulated debris in 2019 / 2020. Excess water was used to refill the lake following works. This reserve is not expected to be one of the top water using sites in the future, unless the lake needs to be drained and refilled again. |
| *GWL 159561 (7)* | *Highbury Reserve* | *Groundwater* | ***65400*** | *65400* | Meter still to be fitted, usage calculated as per allocation. An accurate reading will be provided next financial year. |

The City has licences to abstract groundwater in accordance with Department of Water requirements and allocations. A summary of these corporate licences to take groundwater have been provided in Table 4. Improvement upon metering abstraction sites ensures water usage measurements are accurate and reliable.

Annual licence allocations are subject to change through licence amalgamation, new POS allocation or revision of licenced areas. The City has complex groundwater licence arrangements, which are not accurately captured by the current licensed allocation, as annual allocation changes year to year. Therefore, this latest financial year provides the most accurate comparison against the current licensed allocation.

**Table 4: Summary of corporate licences to take groundwater**

| Licence # | Current Licensed allocation (kL) | Actual metered abstraction 2018/2019 (kL) | Actual metered abstraction 2019/2020 (kL) | Actual metered abstraction 2020/2021 (kL) | Notes* |
|---|---|---|---|---|---|
| ***GWL 65106 (9)*** | *2,746,285* | *2,238,891* | *2,189,362* | *2,125,072* | |
| ***GWL 154214*** | *592,495* | *510,672* | *670,752* | *578,218* | |
| ***GWL 65114 (9)*** | *478,383* | *322,044* | *393,569* | *339,380* | |
| ***GWL 158268 (4)*** | *313,125* | *280,656* | *280,796* | *217,611* | |
| ***GWL 65214 (12)*** | *240,050* | *297,482* | *216,731* | *204,521* | |
| ***GWL 150490 (6)*** | *236,375* | *131,303* | *205,253* | *146,552* | |
| ***GWL 169175*** | *154,230* | *150,490* | *135,122* | *126,019* | |
| ***GWL 178632 (4)*** | *141,550* | *127,023* | *153,901* | *88,390* | |
| ***GWL 201976 (1)*** | *98,250* | | | *69,000* | |
| ***GWL 159561 (7)*** | *65,400* | | *65,400* | *65,400* | New meter required, usage calculated as per allocation. |
| ***GWL 153280 (5)*** | *84,255* | *41,939* | *69,996* | *56,225* | |

| | | | | | |
|---|---|---|---|---|---|
| ***GWL 203938 (1)*** | *47,960* | | *47,960* | *47,960* | Meter replaced during the season as faulty, usage as per allocation |
| ***GWL 166204 (5)*** | *36,950* | *46,473* | *21,940* | *46,304* | |
| ***GWL 202049 (1)*** | *31,710* | | | *29,181* | |
| ***GWL 165438 (4)*** | *15,703* | | | *17,970* | |
| ***GWL 204511 (1)*** | *8,292* | | | *17,376* | |
| ***GWL 157570 (4)*** | *10,650* | | | *16,231* | |
| ***GWL 203219 (1)*** | *7,875* | | | *11,448* | |
| ***GWL 203126 (1)*** | *4,275* | | | *4,614* | |
| ***GWL 204022 (1)*** | *17,400* | | | *3,008* | |

## Community water consumption

Potable Water Consumption

Annual community water use is the amount of water currently consumed by the community. The City's community water is currently used by a number of sectors, with the residential, education and commercial sectors being among the highest users. The community water consumption data, provided by Water Corporation, will help to monitor overall water usage in the City.

The City has an estimated population of 138,581. Between the two latest financial years there has been a 3% decrease in total community water use. However, whilst consumption by the commercial sector is decreasing, residential and education water use still continues to rise. Sector increases could be reflective of a shift from office to working from home, as per capita water consumption has remained similar across all sectors. In the financial year 2020/2021, the total water consumption from the community equates to 94kL per capita, with 84kL per capita coming from the residential sector.

The residential sector holds the highest percentage of water consumption at 89%, the commercial and education sectors hold 10% and 1% respectively.

**Table 5: Community potable water use sectors and water consumption over time**

| Water use source | 2016/2017 (kL) | 2017/2018 (kL) | 2018/2019 (kL) | 2019/2020 (kL) | 2020/2021 (kL) |
|---|---|---|---|---|---|
| Residential | 11,124,729 | 10,955,763 | 10,838,533 | 11,115,606 | 11,607,502 |
| Commercial | 2,268,001 | 2,218,949 | 2,265,106 | 1,415,011 | 1,306,497 |
| Education | 155,400 | 154,467 | 143,468 | 144,987 | 167,008 |
| **Total water use** | **13,548,130** | **13,329,179** | **13,247,107** | **12,675,604** | **13,081,007** |

Estimates on community non-potable water allocation usage have been provided by the Department of Water and Environment Regulation (DWER).

Garden bores are regulated by the DWER through measures such as three days per week sprinkling roster and a winter sprinkler ban. However, as garden bores are not licensed, estimates are based on best available

information (i.e. household water use surveys and metered samples). The City is estimated to have 22,796 bores abstracting 9,802,144kL per annum. This is an average of 430kL per garden bore per annum.

Licensed, self-supply groundwater users include landscaping, agricultural and industrial practices. Licensed groundwater abstraction is sourced from the Superficial, Rockingham Sands and Leederville aquifers. Within the City, the total number of licenses has increased by 57 since 2016/2017 and this is reflected in the steady increase of total allocation over time. A 36% increase has occurred over the last five years. Overall, total water use from community non-potable water (garden bores and licensed bores) has continued increasing over time, with an 18.8% increase since 2016/2017. Figure 2 highlights the total change in community non-potable water consumption over the last five financial years.

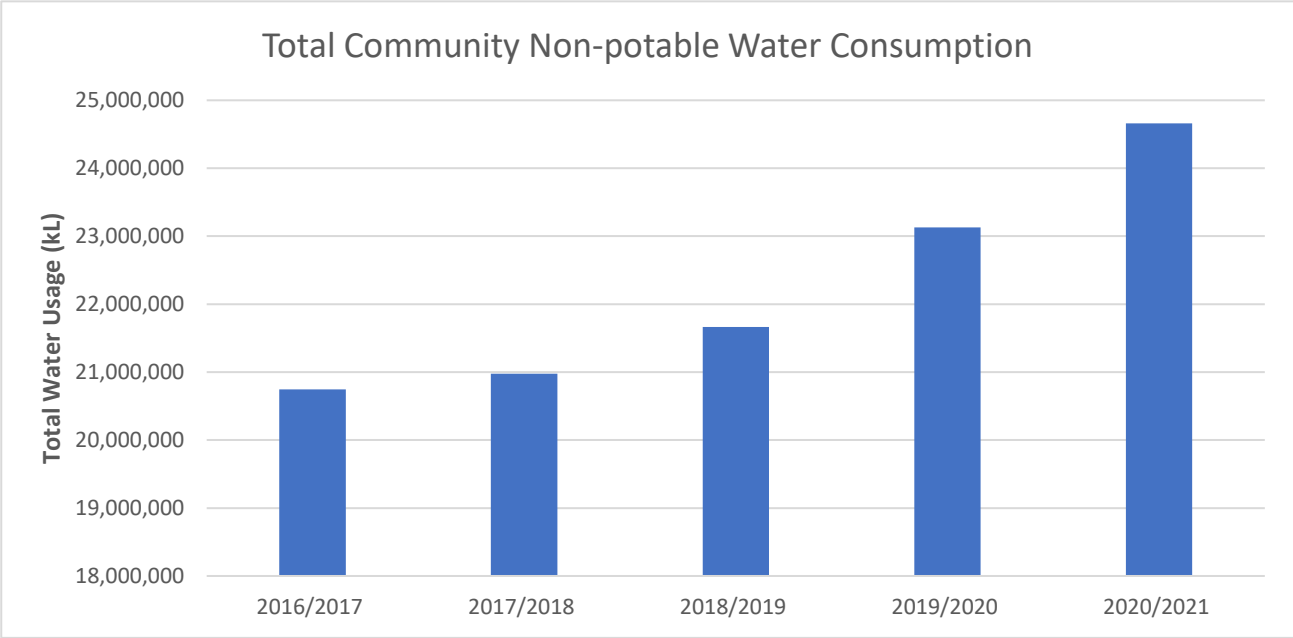


**Figure 2.** Total community non-potable water consumption from 2016/2017 to 2020/2021.

**Table 6: Community non-potable water allocation over time**

| Water use source | 2016/2017 (kL) | 2017/2018 (kL) | 2018/2019 (kL) | 2019/2020 (kL) | 2020/2021 (kL) |
|---|---|---|---|---|---|
| Garden bores | 9,802,144 | 9,802,144 | 9,802,144 | 9,802,144 | 9,802,144 |
| Licensed, self-supply groundwater users for example schools, sports clubs, industry, construction and horticulture | 10,944,326 | 11,172,926 | 11,862,406 | 13,325,917 | 14,856,768 |
| Total water use (kL) | **20,746,470** | **20,975,070** | **21,664,550** | **23,128,061** | **24,658,912** |

# Waterwise Goals

## Waterwise Vision

In accordance with the Strategic Community Plan (2019-2030), the City's Waterwise priorities are:

**Aspiration 3: Plan for Future Generations**

**Climate Change Adaptation** – Acknowledge and understand the impacts of climate change, and identify actions to mitigate and adapt to those impacts.

**Preservation and management of bushland and coastal reserves** – encourage the sustainable management and use of the City's bushland and coastal reserves

**Liveable suburbs** – Plan for attractive sustainable suburbs that provide housing diversity, quality public open spaces, walkways, amenities and facilities for the community.

**Aspiration 4: Deliver Quality Leadership and Business Expertise**

**Leadership in sustainability** – provide community education on the management of waste, and provide opportunities for community involvement in sustainability programs.

## Corporate Water Management

The City's 2016 Water Efficiency Action Plan established two corporate conservation goals, which aimed to:

- *Using 2015 as baseline, reduce corporate potable water consumption by 15% per capita by the end of 2030; and*
- *Reduce the City's groundwater consumption by up to 10% based on the Department of Water standard groundwater allowance of 7500kL/hectare.*

The City has already met its 2030 corporate potable water consumption goal. Since 2015, corporate potable water consumption has decreased by 22.6% per capita. This is a change from 850L per capita to 658L per capita. Although there was an increase within 2019/2020, this amount is not reflective of the normal corporate potable consumption as the Rockingham Aquatic Centre commenced routine maintenance, which required pools to be drained, contributing to the significant increase in the City's corporate potable water usage. In 2020/2021 there was a 25% decrease from the previous financial year. However, this decrease is not typical of normal corporate potable consumption and may be reflective of changed work conditions associated with COVID-19 restrictions, with many employees working from home and not contributing to City water consumption. Therefore, as there has been no discernable trend in water consumption, the 2016 goal for corporate water consumption will remain the same.

The corporate potable water consumption goals aims to:

- ***Reduce corporate potable water consumption by 15% per capita by the end of 2030, using the 2015 corporate potable water data as a baseline.***

The City continues to irrigate in accordance with the standard groundwater consumption allowance based on the licenses issued by the Department of Water and Environment Regulation. It is important that no further reductions in groundwater consumption are targeted, so that the City can continue to provide the community with access to usable irrigated open space. Therefore, the 2016 goal for groundwater consumption will remain the same.

- ***Reduce the City's groundwater consumption by up to 10% based on the Department of Water standard groundwater allowance of 7500kL/hectare.***

## Community Water Management

Over the last five years, community water consumption has decreased by 8.4%, from 104kL to 94.4kL per capita. As such, the City is still on track to meeting the community targets set out in the 2016 Water Efficiency Action Plan, being the 15% per capita reduction by 2030 and the 25% by 2060. As such, community water management goal from 2016 has been adopted into this Waterwise Council Action Plan. Residential water consumption of 83.7kL per capita has remained below the State average of 152kL per capita. The City will continue its efforts of encouraging residents to reduce their water consumption.

The City of Rockingham's community water management goal aims to:

- ***Reduce community water consumption by 15% per capita by 2030 and by 25% by 2060, using the 2015 community consumption data as a baseline.***

## Waterwise Endorsement Action Table

**Table 8: Waterwise Endorsement Action Table**

| Water Area | Corporate Water Actions | Status (Complete/In Progress/Ongoing/ To be Completed) | Department Responsible | 2020/2021 Updates/Notes/Evidence |
|---|---|---|---|---|
| **All water sources** | | | | |
| Facilities | Establish a Water Audit Program or similar to closely monitor water use, continually improve water efficiency and identify how to reduce water demand of your top water consuming assets. Demonstrate your plans to implement viable recommendations from your water audits over time. | In progress | Operations and Fleet Services | No updates in 2021. |
| | Implement maintenance processes to detect, report and repair leaks within all council assets. | Ongoing | Operations and Fleet Services<br><br>Strategic Planning and Environment<br><br>All City of Rockingham staff. | Water Corporation signage is displayed within staff facilities and promoted on the Intranet. Detection and reporting of leaks is via notification from Water Corporation or by visual observations by City of Rockingham staff.<br><br>Advice for reporting leaks will be posted on the City of Rockingham staff Intranet upon approval of this Water Efficiency Action Plan |
| Monitoring | Implement tracking and monitoring of assets' water use over time using industry standards for benchmarking top water consuming sites. | Ongoing | Strategic Planning and Environment<br><br>Operations and Fleet Services | Performance benchmarks outlined in the Water Efficiency Plan 2016 will continue to be used to track and monitor assets' water use over time using industry standards. Annual Waterwise reporting will be used to compare and assess top water consuming sites. Performance benchmarks will be reviewed as required. |

# Waterwise Endorsement Action Table

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| Education | Establish a Water Management Team to foster a culture of Waterwise Champions within the council including providing behaviour change programs, workshops or initiatives that will encourage waterwise practices at the office and at home. | Ongoing | Water Management Team | A list of persons within the Water Management Team has been referenced at the beginning of this report. |
| Irrigation | Establish and/or maintain a baseline water budget for every irrigated public open space asset. Demonstrate how you monitor and adjust the baseline water budget in response to weather conditions and or landscape planting changes. | Ongoing | Parks Services | The City's Water Budget is maintained in accordance with DWER requirements. A record is kept internally.<br><br>Weather stations have been used previously, however, alternative monitoring systems are being reviewed to assist irrigation systems respond better to weather conditions. Larkhill Sporting Complex, the City's top non-potable water consuming site, had a new control system and stations configured in May/June 2021. This has significantly improved system uniformity and overall efficiency. Potential water saving benefits will be realised at the end of this season. |
| | Provide evidence that demonstrates irrigation systems are performing at best practice and are audited to identify poorly performing fixtures or schedules. | Ongoing | Parks Services | Weekly, ad hoc site inspections occur across the maintainer's round. Maintainers keep stock and identify areas that require attention. Replacement of damaged irrigation is undertaken to align with the appropriate ASCON drawings (if available) to keep consistency and align for the efficiency of the infrastructure performance.<br><br>Audits are undertaken annually, with focus on areas that show signs of struggle over the previous month. The aim is to get every City maintained reserve done each year. This occurs through the winter period to make improvements prior to the next irrigation season. |
| Landscaping | Landscaping policies and/or plans to include low water use plants, waterwise mulch, hydrozoning and soil amendments. | Completed | Parks Services | WSUD features are included within landscape and planning policies. This allows for rain gardens and bioretention swales to be introduced within new urban developments. |

# Waterwise Endorsement Action Table

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| | | | Land and Development Infrastructure | The City's Greening Plan incorporates a list of recommended species based on climate suitability. |
| WSUD | Develop Local Planning Policy to implement water sensitive urban design in new land developments and infill developments. | Completed | Land and Development Infrastructure | Planning Policy 3.4.3 Water sensitive urban water design |
| | Proactively reduce pollution and litter near local waterways through collaboration with the community. | Ongoing | LitterBusters | LitterBusters has been operating since 2014, seven days a week, responding to community tips of litter, illegal dumping and graffiti on City property. Residents are invited to contact LitterBusters to alert the City of forms of litter. Further information can be located on the City's website (LitterBusters - City of Rockingham). |
| **Potable water sources** | | | | |
| Facilities | Procurement policies incorporate internal requirements to install better than the minimum Building Code of Australia WELS ratings for water efficiency for water fixtures, fittings and appliances for all new buildings AND external requirements to use Smart Approved WaterMarked and Waterwise Approved products and services where possible. | Ongoing | Strategic Planning and Development<br><br>Operations and Fleet Services | The City's Building Specification Guidelines, an internal working document, provides recommendations for installing minimum WELS ratings water fixtures to all new build, renewal and refurbished City buildings. |
| Monitoring | Scheme water meters (and any sub meters) are read on a regular basis and recorded. Usage anomalies are investigated and leaks repaired in a timely manner. | Ongoing | Operations and Fleet Services | A record of water consumption is maintained for all facilities based on the Water Corporation's quarterly consumption invoices. Anomalies are investigated in a timely manner. |
| | Investigate the use data loggers on top 3 consuming facilities to monitor water use and regularly monitor. | Ongoing | Strategic Planning and Development<br><br>Operations and Fleet Services | Further consideration of this action is subject to budget. The City currently has data loggers installed at the top two potable water consuming facilities – Aqua Jetty and Crocker Street Depot. Additional improvements are required to fix the current system located at the Aqua Jetty, and are scheduled to be completed within the next two years. Crocker Street Depot has a data logger attached to water line leading to potable retic; to monitor over consumption. |

# Waterwise Endorsement Action Table

| Non-potable water sources | | | | |
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| Monitoring | Progress towards metering the take of water from all licenced groundwater bores using correctly installed and approved water meters. | Completed | Parks Services | A review of all licences and bores was completed in 2021 and 25 sites were found to be non-compliant. These sites will have compliant metres fitted over the course of this financial year. |
| | Develop a process to record your metered water take for each licensed groundwater bore at the end of each calendar month and submit recordings via Water Online to manage all of your water licensing and metering requirements. | Ongoing | Parks Services | Monthly usage is captured and reported via Water Online annually in July, as per DWER requirements. |
| | Maintain all meters in good working order and notify the DWER as soon as possible of detecting a malfunction of the water meter. | Completed | Parks Services | In accordance with the City's Irrigation Management Plan. |
| | Investigate opportunities towards increasing groundwater recharge through permeable hard surfaces. | Ongoing | Land and Development Infrastructure | The City is still progressing investigations into a Managed Aquifer Recharge Scheme. The latest update on this project includes the drilling of an investigation test bore within Rivergum's Estate. Preliminary findings of hydrogeological investigations at this site are to be finalised by the end of 2021. |
| | Investigate the potential for treated wastewater, aquifer replenishment and shared groundwater allocations to be used for the irrigation of new POS reserves. | To be completed | Strategic Planning and Environment | As outlined within the City's Public Open Space Community Plan Strategy, investigations are to be completed into alternative irrigation sources for future developments. For example, the Karnup District Structure Plan will be in alignment with this action when assessing water management choices for new developments. |

# Waterwise Endorsement Action Table

| Water Area | Community Water Actions | Status (Complete/In Progress/Ongoing/ To be Completed) | Department Responsible | 2020/2021 Updates/Notes/Evidence |
|---|---|---|---|---|
| Education | Engage with household and business ratepayers to promote water efficiency, waterwise gardens and how to be a responsible garden bore owner. | Ongoing | Strategic Planning and Environment<br><br>Community Development | Water efficiency information is available from City's website and promoted through Facebook. Local community and businesses are encouraged to utilise Waterwise Specialists and products.<br><br>An Annual Native Plants Giveaway organised for residents.<br><br>Grow.Cook.Eat is a free 6-week program which the City offers to provide residents with the knowledge and confidence to grow edible gardens. In 2020/2021 nine workshops were conducted engaging 205 community members. Flyers are given out during this program providing advice on Waterwise garden techniques. The flyers provide information relating to harvesting rain water, recycling and grey water, bore water usage, improving soil quality, mulching, hydrozoning and native plant species. |
| | Provide information on the installation and local regulation of non-potable water supply (e.g. grey water systems and rainwater tanks) | Ongoing | Strategic Planning and Environment<br><br>Health Services | Link to external resources are available on the City's webpage. |
| | Engage with local schools on water efficiency and sustainability programs, including encouraging schools to participate in the Waterwise Schools Program. | Ongoing | Strategic Planning and Environment | No update in 2021. |

# Waterwise Endorsement Action Table

End of action plan for Waterwise Council endorsement and re-endorsement. To retain endorsement as a Gold Waterwise Councils and for councils wishing to apply to be endorsed as Gold, please fill in the criteria for Gold Waterwise Council status in the following pages.

## Criteria for Gold Waterwise Council Status

As part of the Waterwise Council Program, local governments can be endorsed as a Waterwise Gold Council. To apply for Gold Waterwise Council Status, LGA's must demonstrate significant contribution towards development of waterwise communities and best practice water management.

For all local governments, the following actions must be **completed** before Gold endorsement:

1. Have all **Aquatic Centres** endorsed as a Waterwise Aquatic Centre
2. Have a Waterwise **Verge Policy or Guideline** in line with Water Corporation's Waterwise Verge Best Practice Guidelines
3. Have an established cross-functional **Water Management Team**

Please provide an update below

**Table 9: Updates on compulsory Gold waterwise actions**

| Gold Compulsory Action (as above) | 2020/2021 Updates/Notes/Evidence |
|---|---|
| All Aquatic Centres endorsed as Waterwise | All City managed aquatic centres have been endorsed as 'Waterwise' with the Aqua Jetty endorsed in 2016 and the Rockingham Aquatic Centre endorsed in 2020. |
| Waterwise Verge Policy or Guideline | Completed. Copy of Verge Development Guidelines provided. |
| Established cross-functional Water Management Team | The Water Management team has been referenced at the beginning of this report. |

If you are currently a Gold Waterwise Council or intending to apply for Gold status for the first time, please provide an update to the actions in Table 10 and provide 5 or more additional actions to report on each financial year for continued Gold re-endorsement.

Additional actions will need to address Water Sensitive City goal areas with at least one action each addressing the following goals:

1. Improve Productivity and Resource Efficiency;
2. Increase Community Capital; and
3. Improve Ecological Health.

Gold actions will need to demonstrate a willingness to strengthen governance arrangements, build community capital, and invest in multifunctional adaptive infrastructure. These actions and others to support high quality and connected open spaces, protecting and enhancing the ecological values of urban landscapes, and recreating a more natural water cycle will assist your council to progress beyond water efficiency and towards creating waterwise cities and communities.

### Water Sensitive Cities Goal Areas

The Cooperative Research Centre for Water Sensitive Cities developed the Waterwise Sensitive Cities Index to benchmark cities against a range of goals and indicators to show where cities sit in regards to becoming a Water Sensitive City (WSC).

See Figure 1 for the goals and indicators that you will need to inform your Gold Waterwise Council actions. For more information on how to progress your LGA towards creating a Water Sensitive City, visit https://watersensitivecities.org.au/ or contact WEpartnership@watercorporation.com.au .

# Waterwise Recognition Scheme

**Figure 1: Water Sensitive Cities Goal Areas and Indicators**

| Ensure good water sensitive governance | Increase community capital | Achieve equity of essential services | Improve productivity & resource efficiency | Improve ecological health | Ensure quality urban space | Promote adaptive infrastructure |
|---|---|---|---|---|---|---|
| Knowledge, skills and organisational capacity | Water literacy | Equitable access to safe and secure water supply | Maximised resource recovery | Healthy and biodiverse habitat | Activating connected green - blue space | Diversify self-sufficient fit-for-purpose water supply |
| Water is key element in city planning and design | Connection with water | Equitable access to safe and reliable sanitation | Low GHG emission in water sector | Surface water quality and flows | Urban elements functioning to mitigate heat impacts | Multi-functional water infrastructure |
| Cross-sector institutional arrangements and processes | Shared ownership, management & responsibility | Equitable access to flood protection | Water-related business opportunities | Groundwater quality and replenishment | Vegetation coverage | Integration and intelligent control |
| Public engagement, participation and transparency | Community preparedness and response to extreme events | Equitable and affordable access to amenity values of water-related assets | Low end-user potable water demand | Protect existing areas of high ecological value | | Robust infrastructure |
| Leadership, long-term vision and commitment | Indigenous involvement in water planning | | Benefits across other sectors | | | Infrastructure and ownership at multiple scales |
| Water resourcing and funding to deliver broad societal value | | | | | | Adequate maintenance |
| Equitable representation of perspectives | | | | | | |

# Waterwise Recognition Scheme

## Gold Waterwise Council Action Table

Actions are allocated against Water Sensitive Cities Goal Areas. For assistance in the below, please contact WEpartnerships@watercorporation.com.au

**Table 10: Gold Waterwise Council Action Table**

| WSC goal | 2020 – 2025 Gold Actions (minimum of 10 actions including those listed below) | Status (Complete/ /Ongoing/To be Completed) | Department Responsible | 2020/2021 Updates/Notes/Evidence |
|---|---|---|---|---|
| Good Water Sensitive Governance | Encourage local developments and infill projects to be accredited under Green Star Developments, EnviroDevelopment, One Planet Living or Living Community Building Challenge.<br><br>All of these programs allow a development to become endorsed as a Waterwise Development. | Ongoing | Strategic Planning and Environment | The following Advice Note is typically provided to developers at Structure Plan stage: "The City encourages that you consider registering the project as a Waterwise Development. The Waterwise Development Program is facilitated by the Water Corporation and provides recognition to development projects with exceptional water efficiency outcomes. Further information can be obtained from https://www.watercorporation.com.au/home/business/saving-water/waterwise-programs/waterwise-development-program"<br><br>Update of external link to Waterwise Development page is required within the Advice Note. |
| Good Water Sensitive Governance | Support relevant parks and irrigation staff to complete Irrigation Australia's Irrigation Efficiency Course. | Ongoing | Parks Services | No update in 2021. |
| Increase Community Capital | Provide local planting lists for residents with Waterwise species in line with the Waterwise Plant Directory | Completed | Engineering Services | Local planting lists are currently available via the verge development guidelines, available on the City's website. A list of Waterwise verge plants is provided within the document in line with recommended plants in the Waterwise Plant Directory. |

# Waterwise Recognition Scheme

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| Ensure quality urban space | Provide active progress towards upgrading retrofitting local drainage sumps infrastructure to improve for community accessibility, amenity and environmental improvement outcomes using Water Sensitive Design techniques. | To be completed | Parks Services | This action is subject to obtaining budget approvals from Council. No updates in 2021. |
| Improve Productivity & Resource Efficiency | Encourage participation of public and private golf courses in the Department of Water and Environmental Regulation's Waterwise Golf Program | To be Completed | Strategic Planning and Environment | Letters will be sent to all golf course operators in the City of Rockingham to encourage participation in the program. |
| Improve Ecological Health | Pursue preparation of a Wetland Protection Policy and a Tree Protection Policy following Council approval of the draft Planning Strategy: Environmental Protection. | To be Completed | Strategic Planning and Environment | Subject to Council approval, Planning Strategy: Environmental Protection will include key recommendations to prepare a Wetland Protection Policy and a Tree Protection Policy. These recommendations will be used to Improve ecological health within the City of Rockingham. |
| Improve Productivity & Resource Efficiency | Prepare an Environmentally Sustainable Design Guidelines for Residential Homes to engage residents in reducing water consumption to meet potable water management goals. | Ongoing | Strategic Planning and Environment | The City will continue to find additional ways to encourage end-user potable water consumption demand. As outlined in the City's Sustainability Strategy, the preparation of a Planning Policy on environmentally sustainable design parameters is currently being developed. A home guide will be prepared in addition to the policy, which will provide guidance to residents when building or renovating. Moving forward, the City will investigate a 'Green Award' for developers and builders, to incentivise ESD parameters when building or renovating. |
| Increase Community Capital | Investigate community education program with focus on ecological values and connectivity with water at Lake Richmond reserve. | To be completed | Strategic Planning and Environment | Following the appointment of an Environmental Education Officer, the establishment of a community education program will be investigated, with the intention of promoting ecological values and connectivity to water. There will be a focus on talks with local community members and |

# Waterwise Recognition Scheme

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| | | | | schools. Opportunity for involvement of external parties to provide additional expertise to the program will be subject to budget. Lake Richmond Management Plan has been provided. |
| Improve Ecological Health | Managed Aquifer Recharge Project | Ongoing | Land and Development Infrastructure | A feasibility study was completed in 2018 for the utilisation of a Managed Aquifer Recharge Scheme within the City. The feasibility study identified the need for further testing; and in March 2021 a test bore was drilled in Rivergum's Estate (within an existing reserve). Hydrogeological investigations are still ongoing, with preliminary findings expected to be finalised towards the end of 2021. |
| Improve Ecological Health | Karnup District Structure Plan | To be completed | Strategic Planning and Environment<br><br>Parks Services | The City is expected to see significant population growth in the near future, including the development of Karnup. The Karnup District Structure Plan will be prepared by the City to ensure the retention of existing areas of high ecological value and the creation of sustainable suburbs. |
| Ensure quality open spaces | City of Rockingham Greening Plan 2022 | Ongoing | Strategic Planning and Environment<br><br>Parks Services | The City developed the 2017 Greening Plan as a framework for the expansion of urban forest through public open space and streetscapes. As a result of this framework, 13,239 plants have been planted in the last four years. A revision of the plan is being prepared for a release in 2022. The new plan will provide updated targets and goals for the next five years. |
| Ensure quality open spaces | Public Open Space Community Plan Strategy 2020 | Ongoing | Strategic Planning and Environment | The City of Rockingham Public Open Space Community Plan Strategy was completed in 2020 to guide the planning, development and management of Public Open Space within the City, to ensure it best meets the needs of the community and balances competing demands for space. The Public Open Space Community |

# Waterwise Recognition Scheme

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| | | | | Plan Strategy will be delivered over the next five years (2020-2025). This strategy includes actions such as:<br>• Investigate the potential for treated wastewater, aquifer replenishment and shared groundwater allocations to be used for the irrigation of POS reserves.<br>• Identify locally significant environmental features, vegetation and fauna to be protected through the preparation of Structure Plans, whilst complimenting the intended recreational function of the space.<br>• Investigate options for non-irrigated POS reserves.<br>• Prepare Public Open Space Design Guidelines.<br>• Develop the Five-year Works Program to guide the redevelopment of existing POS reserves. |